

11-3

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

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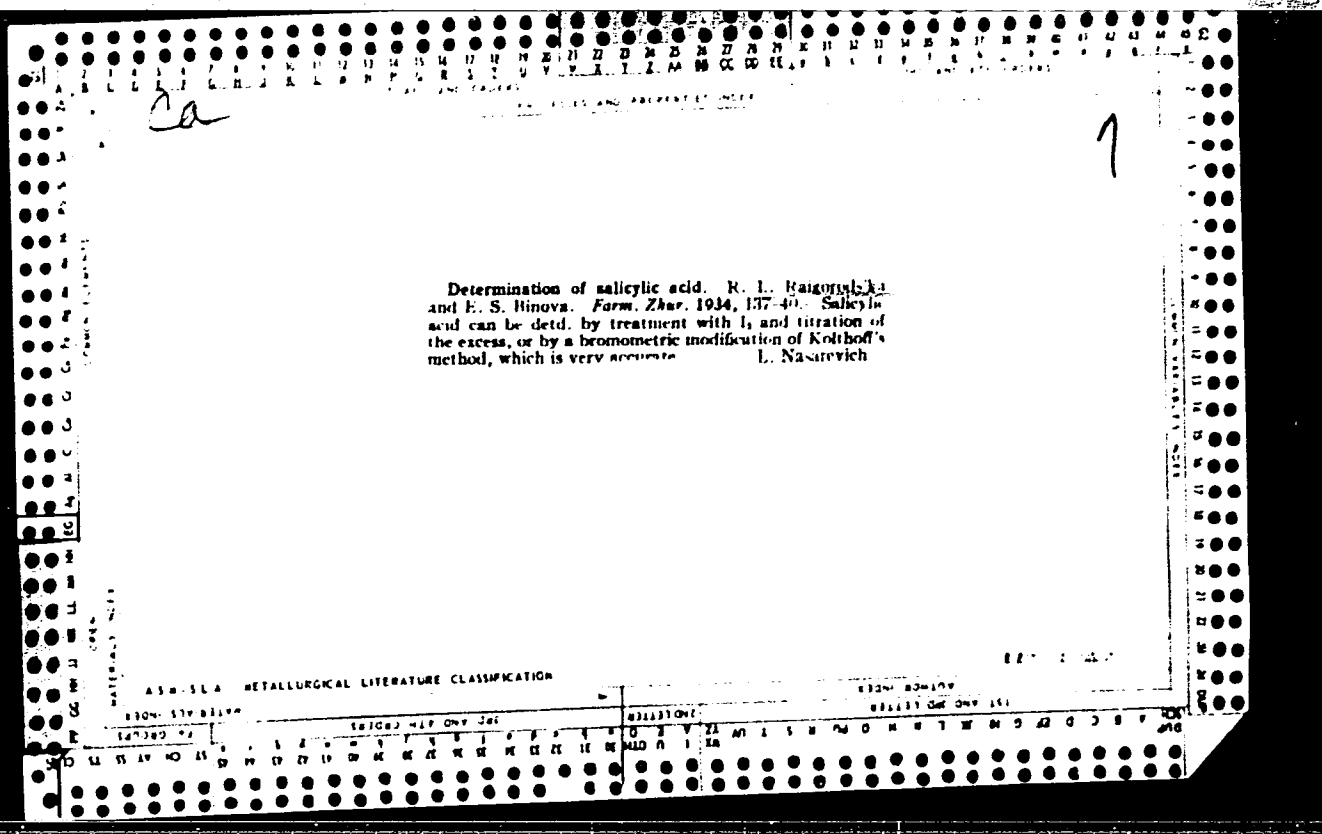
Determination of anionic acid. R. L. BARRON and R. D. BIRNBAUM (J. Am. Chem. Soc. 1964, 86, 137-140).—The acid is determined by treatment with I and titration of the mixture by a bromometric modification of Kolthoff's method. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

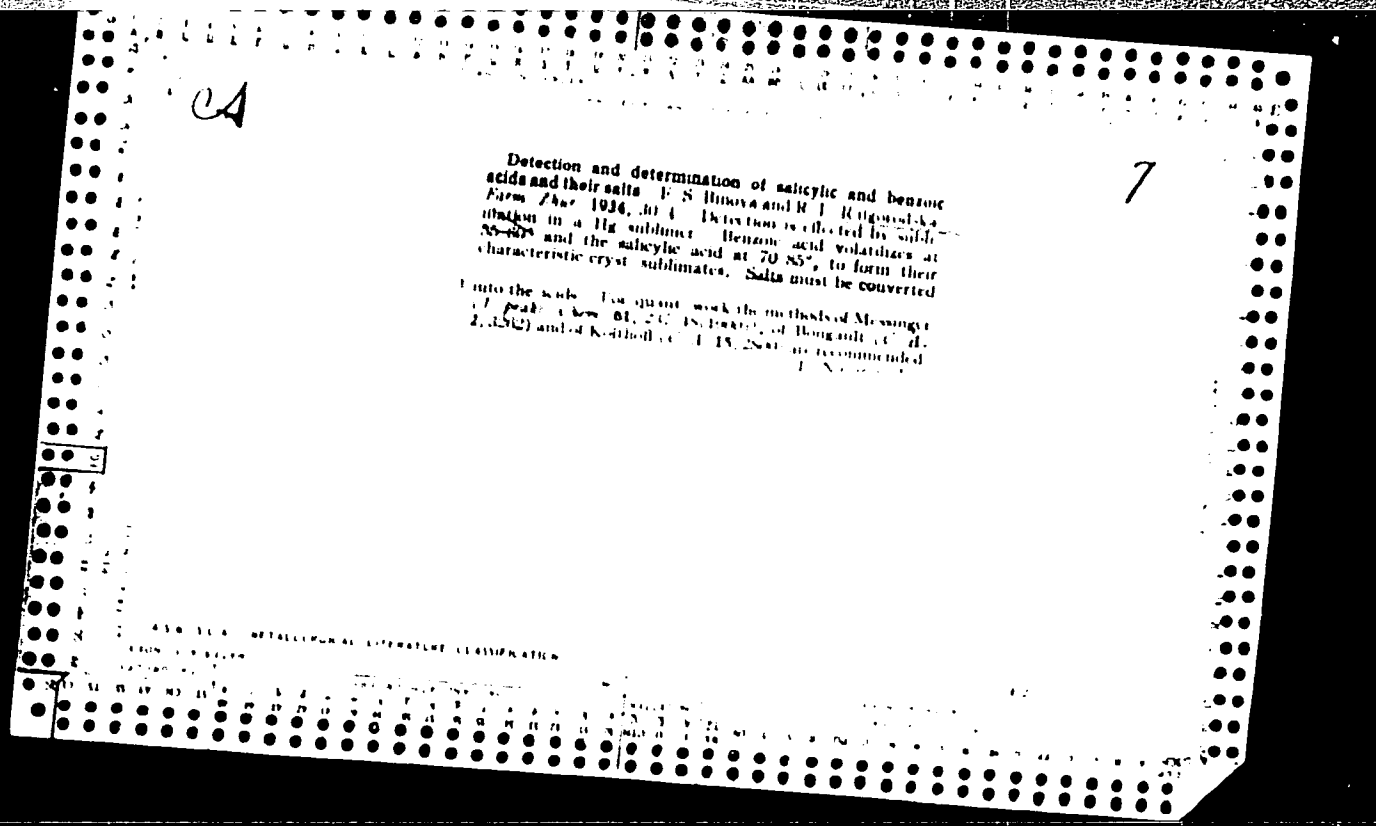
ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

LIST AND INDEX ORDER		PROCESSES AND PROPERTIES INDEX	
BC Determination of iodine in iodides. R. L. RAPOBOODNEKA and E. S. BINOVA (Farm. Zhur., 1935, No. 1, 23-25).—Free I is titrated with $\text{Na}_2\text{S}_2\text{O}_3$ and total I' with AgNO_3. CH. ABS. (c)		12-1	
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION			
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GROUP: 1		GROUP: 1	
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CA 17

Microchemical determination of alkaloids of *Ipecacuanha*. R. S. Binova and R. L. Raigorod'ska, *Trans. Ukrain. Inst. Exptl. Pharm.* 1, 151-3 (1934). The qual. reagent used was a mixt. of NH_4 molybdate and H_2SO_4 . This gives a green color with the alkaloid. For the detn., MgO , tragacanth and chloroform were used. One hundred mg. of powd. root can be analyzed by this method.

R. Levine

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

CA

Determination of Iodine with Iodides R. L. Rad-
 kowsky and L. S. Blumstein. *Anal. Chem.* 1955, Vol. 27,
 245. Free I is titrated with $\text{Na}_2\text{S}_2\text{O}_3$, the iodides are
 then titrated with AgNO_3 and the free I equiv. is sub-
 tracted from total iodides as I^- $\text{Na}_2\text{S}_2\text{O}_3$.

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Acetylene derivatives. LXXXVI. Heterocyclic compounds. 7. Synthesis of 4-vinylethynyl-4-hydroxypiperidines by condensation of vinylacetylene with 4-piperidones. I. N. Nazarov, V. Ya. Ralgorodskaya, and V. A. Rudenko. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1949, No. 1, 68-75; cf. C.A. 43, 2009c. $\text{CH}_2\text{:CHC}\equiv\text{CH}$ (7 g.) and 14.1 g. 2,5-dimethyl-4-piperidone in 60 ml. Et_2O added to 10 g. powd. KOH in 30 ml. Et_2O with stirring at -5° , stirred 8 hrs. in the cold, and let stand overnight, gave 12.3 g. 2,5-dimethyl-4-vinylethynyl-4-hydroxypiperidine (I), b_p 135-6°. I hydrogenated with Pt catalyst in EtOH gave 2,5-dimethyl-4-butyl-4-hydroxypiperidine, needles, m. 106-7° (sublimed for purification). The latter, b_p 85-6° (liquid form), was obtained also in 7.3-g. yield from BuMgCl (30 g. BuCl) and 20 g. 2,5-dimethyl-4-piperidone, after heating in Et_2O , then in CaH_2 to 70°, prior to decompn. with 15% HCl and ice. $\text{CH}_2\text{:CHC}\equiv\text{CH}$ (6 g.) and 12.5 g. 2,5,6-trimethyl-4-piperidone, treated as above, gave 13.2 g. 2,5,6-trimethyl-4-vinylethynyl-4-hydroxypiperidine, b_p 140-3°, m. 123.5-4° (from CaH_2); 4-Bu analog, m. 135-6° (from CaH_2). 2,5-Dimethyl-6-ethyl-4-piperidone (11.3 g.) gave 10 g. 2,5-dimethyl-6-ethyl-4-vinylethynyl-4-hydroxypiperidine, b_p 143-5°; 4-Bu analog, b_p 142-4°, m_p 148-22, d₄²⁰ 0.9301. Similarly, 11.3 g. 2-methyl-4-ketodecaldehydiquinoline gave 9.8 g. 2-methyl-4-hydroxy-4-vinylethynyldecalhydroquinoline, b_p 140-1°; 4-Bu analog, m. 136-8° (from CaH_2). Analogously, 23 g. 1,2,5,6-tetramethyl-4-piperidone gave 14 g. 1,2,5,6-tetramethyl-4-vinylethynyl-4-hydroxypiperidine, b_p 122-25°, m_p 151-38, d₄²⁰ 0.9858; 4-Bu analog, b_p 100-1°, m_p 148-64, d₄²⁰ 0.9418 [also prepd. in 25% yield from BuMgCl and the corresponding piperidone; in this case, the product b_p 113-15°, crystal., and m. 58-9° (from petr. ether); apparently the Grignard syntheses yield isomers of the compds. obtained by the $\text{CH}_2\text{:CHC}\equiv\text{CH}$ condensation]. LXXXVII. Mechanism of dehydration and cyclization of dienyne. 17. Hydration and cyclization of 5-propyl-1,5-octadien-3-yne. I. N. Nazarov and I. I. Zaretskaya. *Ibid.* 178-83; cf. C.A. 43, 113f. $\text{CH}_2\text{:CHC}\equiv\text{CH}$ (159 g.) in 200 ml. dry Et_2O and 200 g. Pr_2CO added to 155 g. powd. KOH in 400 ml. Et_2O in the cold over 4 hrs. and stirred 6 hrs. in the cold and 4 hrs. at room temp. gave, after the usual aq. treatment, 251 g. (77%) dipropyl(vinylethynyl)carbinol, b_p 73-6°, m_p 147-80. This (103 g.) and 100 g. 50% H_2SO_4 stirred 5 hrs. at 60-5° gave 81% 5-propyl-1,3-octadien-3-yne (I), b_p 65-7°, m_p 149-60. I (6 g.) hydrogenated in AcOH with Pt oxide gave 5-propyloctane, b_p 174-6°, m_p 63-5°, m_p 14190, d₄²⁰ 0.7447. I (77 g.), 300 g. 90% MeOH , 1.5 ml. H_2SO_4 , and 4 g. Hg sulfate stirred 1 hr. at 65°, then treated with a total of 10 g. Hg sulfate in 2 portions spaced 2.5 hrs. (total time 6 hrs.) gave, after concn. and neutralization, 87 g. 5-propyl-1,5-octadien-4-one (contaminated with some 5-propyl-2-methoxy-5-octen-4-one), b_p 90-8°; the impurity was removed by 1 hr. at 90-100° and 75 mm. with 0.5 g. $p\text{-MeC}_6\text{H}_4\text{SO}_3\text{H}$ (3 over)

... gave 70 g. pure dicone, b_p 103-6°, n_D²⁰ 1.4770, d₄²⁰ 0.8800, which does not undergo hydration under the above conditions. Hydrogenation over Pt oxide in EtOH gave 5-propyl-4-octanone, b_p 80-92°, b_p 201-4°, n_D²⁰ 1.4300, d₄²⁰ 0.8300, which yields not an oxime or semicarbazone. The structure of the dicone was shown by ozonization, which gave HCO₂H, and 45 g. H₂PO₄ (d. 1.77) after 2.5 hrs. at 60-5° gave 20 g. 1-propyl-2-ethyl-3-methyl-1-cyclopenten-5-one, b_p 103-5°, n_D²⁰ 1.4770, d₄²⁰ 0.9116; semicarbazone, m. 185-8° (from EtOH); 2,4-dinitrophenylhydrazones, m. 137-8°. The same product is obtained with undiminished yield on treatment with H₂PO₄ 11 hrs. at 10-14°. Hydrogenation over Pt oxide gave in poor yield the corresponding cyclopentenone deriv.; semicarbazone, m. 173-4°. Treatment at 60-5° for 6 hrs. gave the above cyclopentenone directly but in very poor yield (1 g.), the rest of the diene being unchanged. The structure of the cyclopentenone is shown by ozonization, which yields PrCO₂H and EtCO₂H, which yields the same products; the above keto acid yields a 2,4-dinitrophenylhydrazone, m. 115-16° of diene. 18. Hydration and cyclization of 5-methyl-1,5-tetradecadien-3-yne. *Ibid.* 184-9. -Addn. of 344 g. Et₂O to 130 g. powd. KOH in 500 ml. Et₂O with stirring cold and 4 hrs. at room temp. gave, after the usual aq. treatment and neutralization, 322 g. mixed methylonyl- (vinylethynyl)carbinol and 5-methyl-1,5-tetradecadien-3-yne (I), b_p 103-30°, repeated fractionation gave 160 g. of the former, b_p 120-2°, b_p 131-3°, n_D²⁰ 1.4725, d₄²⁰ 0.8580, which on hydrogenation over Pt oxide in EtOH gave 5-methyl-5-tetradecanol, b_p 135-8°, n_D²⁰ 1.4440, d₄²⁰ 0.8300, while heating the carbinol (80 g.) with 80 g. 65% H₂SO₄ 4 hrs. to 65° gave 79% pure I, b_p 100-2°, n_D²⁰ 1.4830, d₄²⁰ 0.8183. Hydrogenation of I over Pt oxide in AcOH gave 5-methyltetradecane, b_p 125-7°, n_D²⁰ 1.4320, d₄²⁰ 0.7608. Stirring 54 g. I, 300 g. 90% MeOH, 1 ml. H₂SO₄, and 4 g. Hg sulfate 2 hrs. at 70°, followed by addn. of a total of 12 g. Hg sulfate in 2-g. portions at 2-hr. intervals, gave 43 g. 5-methyl-1,5-tetradecadien-4-one, b_p 129-33°, n_D²⁰ 1.4780, d₄²⁰ 0.8703; shorter reaction results in partial reaction; no MeO derivs. were detected. The diene on hydrogenation over Pt oxide in EtOH gave 5-methyl-4-tetradecanone, b_p 140-1°, n_D²⁰ 1.4400, d₄²⁰ 0.8278, and a small amt. of the cyclic deriv. described below. The diene (32 g.) and 50 g. H₂PO₄ (d. 1.77) after 3 hrs. at 60-5° gave 30 g. 1,3-dimethyl-2-oxyl-1-cyclopenten-5-one, b_p 134-5°, n_D²⁰ 1.4765, d₄²⁰ 0.8920; semicarbazone, m. 134-5°; 2,4-dinitrophenylhydrazone, m. 99-100° (from EtOH). This ketone is resistant to hydrogenation over a Pt catalyst. Oxidation by KMnO₄ gave AcOH, methylsuccinic acid, caprylic acid, and forms a semicarbazone, m. 124-5° (from 50% EtOH). LXXXIX. Transformations of 2-butyne-1,4-diol. I. N. Nazarov, L. N. Terekhova, and I. V. Torgov. *Ibid.* 287-92. -MeOH (700 g.) and 40 ml. of a soln. of 15 g. H₂SO₄ and 20 g. Hg sulfate in 135 ml. H₂O were treated simultaneously with the rest of the above soln. and 300 g. (HOCH₂C₂H₃)₂ in 500 ml. MeOH at 30° over 4 hrs., then 2 g. Hg sulfate was added and stirred 5 hrs. at 30°; neutralization gave 74% 1-methoxybutan-4-ol-3-one (I), b_p 85°, d₄²⁰ 1.0920, n_D²⁰ 1.4390; semicarbazone, m. 123-3.5° (from MeOH). To 40 g. MeOH and the catalyst added 20 g. HgO, 2 ml. MeOH, and 0.5 ml. BF₃·Et₂O was hrs. at 40°, and the mixt. heated 2 hrs. to 50°, and yield is obtained with Hg sulfate in dry MeOH. Heating I (110 g.) and 0.9 g. p-MeC₆H₄SO₃H to 85° at 50 mm.

(Cont)

gave 2.5 g. 1-buten-4-ol-3-one, b_p 61-2°, n_D^{20} 1.4528, d_4^{20} 1.1113; 2,4-dinitrophenylhydrazones, m. 232-4° (from C_6H_6); the keto alc. polymerizes on standing to a colorless solid. 1 (90 g.), 0.7 g. pyrogallol, and 0.70 g. p -Me- $C_6H_4SO_3H$ heated to 50-85° at 50 mm. gave 40 g. distillate, which was immediately hydrogenated over Pt; fractionation of the combined products of several runs gave 0.5 g. butan-1-ol-2-one, b_p 64-5°, n_D^{20} 1.4200, d_4^{20} 1.028; osazone, m. 117°. XC. Mechanism of hydration and cyclization of dienes. 19. Hydration and cyclization of 5,6-diphenyl-1,5-hexadien-3-yne. I. N. Nazarov and I. L. Kotlyarevskii. *Ibid.* 293-8. To the Grignard reagent of $CH_2=CHC\equiv CH$ (from 100 g. EtBr, 24 g. Mg, and 70 g. $CH_2=CHC\equiv CH$) in 300 ml. Et₂O was added with cooling 130 g. $PhCOCH_2Ph$ in Et₂O; stirring 2 hrs. at 35°, letting stand overnight, and treating with 10% HCl gave phenylbenzyl(phenylalkynyl)carbinol, b_p 162°, n_D^{20} 1.5912, d_4^{20} 1.009, which slowly polymerizes on standing; hydrogenation over Pt gave phenylbenzylbutylcarbinol, b_p 147-8°, n_D^{20} 1.5550, d_4^{20} 1.030; dehydration by $KHSO_4$ at 134-40° and 10 mm. gave 5,6-diphenyl-1,5-hexadien-3-yne (I), b_p 159-60°, n_D^{20} 1.6757, also obtained by stirring with 80% H_2SO_4 at 65-70°. Hydrogenation of the latter gave 5,6-diphenylhexane, b_p 154°, n_D^{20} 1.5379, d_4^{20} 0.956. I (115 g. crude). 400 ml. 90% MeOH, 10 ml. H_2SO_4 , and 30 g. Hg sulfate stirred 18 hrs. at 65-8°, cond., dild. with water, neutralized, and the C_6H_5 ext. of the mixt. rapidly distd. in small portions with p -

Me $C_6H_4SO_3H$ in *vacuo* gave 87 g. 5,6-diphenyl-1,5-hexadien-4-one (II), b_p 179-9.5°, n_D^{20} 1.6320; semicarbazones could not be formed; on long standing the ketone solidifies and m. 70°; hydrogenation over Pt gave 5,6-diphenyl-4-hexanone, b_p 117-9°, n_D^{20} 1.5447, d_4^{20} 1.011; semicarbazone, m. 181.5° (from EtOH); ozonization gave BrOH and HCO_2H . II (4 g.) and 4 ml. H_3PO_4 (d. 1.82) after 15 min. at 70-80° gave 3.8 g. 1,2-diphenyl-3-methyl-1-cyclopenten-5-one, b_p 184°, m. 109° [semicarbazone, m. 229° (from EtOH)], also formed on heating with p -Me $C_6H_4SO_3H$; hydrogenation over Pt gave 1,2-diphenyl-3-methyl-5-cyclopentanone, m. 97-8°; semicarbazone, m. 208-9° (from EtOH). Ozonization of the cyclopentenone gave BrOH and α -benzoylbutyric acid, b_p 155-62°, m. 60-5° (semicarbazone, m. 176-7°). XCI. Chemistry of divinyl ketones. 16. Addition of hydrogen cyanide to 2,2-dimethyldivinyl ketone. I. N. Nazarov and M. V. Kuvarzina. *Ibid.* 299-304. To 22 g. $Me_2C=CHCOCH_2CH_3$, 20 ml. EtOH, and 26 g. AcOH was added in 25 min. 28 g. KCN in 90 H_2O , the mixt. filtered after 4 hrs. at 35-7°, concd., and extd. with Et₂O to yield 21 g. 1-cyano-5-methyl-4-hexen-3-one (I), b_p 103-4°, n_D^{20} 1.4725, d_4^{20} 0.9785; semicarbazone, m. 134° (from dil. MeOH). Use of excess KCN failed to give further addn. Oxidation by $KMnO_4$ gave Me_2CO and succinic acid; hydrogenation

tion over Pt gave 1-cyano-5-methyl-3-hexanone, b.p. 131°; n_D²⁰ 1.4315, d₄²⁰ 0.9322 [semicarbazone, m. 139.5-40° (from 50% MeOH)]; hydrolysis of this satd. ketone by 30% H₂SO₄ 6 hrs. at 70-8° gave 8-isopropylvaleric acid, m. 47° (from ligroin); semicarbazone, m. 147-8° (from 50% MeOH). Similar hydrolysis of the unsatd. ketone gave levulinic acid, sep'd. by distn., and a poor yield of Me₃C:CHCOCH₂CH₂CO₂H, m. 73-4° (from water) (semicarbazone, m. 150°); hydrogenation over Pt gave the above-described satd. acid, m. 47-8°. Use of more conc'd. acid gives only levulinic acid, due to cleavage of the unsatd. ketone. Addn. of 22 g. CH₃:CHCOCH₂CCMe₂ in 22 ml. EtOH to 9 g. KCN in 15 ml. water raised the temp. to 42°, which was maintained 40 min.; stirring 3 hrs. and letting stand overnight gave 4.2 g. Me₃C:CHCOCH₂CH₂CO₂H and 10 g. l. Addn. of KCN to MeOCH₂CH₂COCH₂CO₂H in EtOH in the presence of AcOH gave only tars; the use of large amts. of AcOH gave no reaction.

G. M. Kosolapoff

Heat-transfer factor of the radiant-heat surface in the tube-still furnace. E. P. Raikovodskii. *Azerbaidzhan skoe Neftyanoe Khozyaistvo* 1933, No. 6 7, 64 8. The calcms. of the above factor are presented. A A. B

1. СИНДРОМЫ, А. П., Docent; НИТЛ, ЯА. Л., Docent; КИБУКЮКА, Л. ЯА.
2. УСН (600)
3. Influenza
7. Pathological changes in the nervous system in grippe, Medyc. zhur., 22, no. 1, 1982.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

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B-2-2

Determination of arsenic in medicinal preparations. E. S. Buzova and E. L. Raimonova (Farm. Zhur., 1932, 18-22, 335-337).—The modification of Bak-Mares' method is based on the coloration of $HgBr_2$ paper by AsH_3 . Ch. Abs.

ASB 55.4 METALLURGICAL LITERATURE CLASSIFICATION

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Determination of arsenic in medicinal preparations. E. S. BINOVA AND R. L. KAIMORODSKA. *Farm. Zhurn.* 11-12, 335-7(1932).—The method is a modification of Bek-Merz's method and is based on the coloration of HgBr₂ paper with evolved AsH₃. I. NABAREVICH

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

RECORD NUMBER
7

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RECEIVED ONE ONE 151

1. *Journal of the American Medical Association*, 1997; 278: 1039-1044.

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Comparative research on the biology of the blossoming of the double hybrid maize Warwick 401, its simple hybrids, and consanguineous lines. Studii cerc biol veget 13 no.2:243-260 '61.
(EEAI 10:11/12)

1. Comunicare prezentata de Al. Priadcencu, membru corespondent al Academiei R.P.R.

(Corn(Maize)) (Hybridization)

KIVILO, Evald; RAIG, H., otv. red.

[Elementary course in hygiene for workers of dairy
farms] Sanitaarmiinimumi kursus piimakarjafarmide
töötajaile. Tartu, Vabariiklik sanitaarhariduse
maja, 1962. 61 p. (MIRA 16:12)

BAIK, A.Ye.

Calculation of certain volumes as presented in the ancient
Chinese treatise "Mathematics in nine books." Ist. mat.
issl. no.14:467-472 '61. (MIRA 16:10)

(Mathematics, Chinese)

223

Raik, A. E. The tenth book of Euclid's "Elements."
Trudy Sem. MGU Istor. Mat. Istor. Mat. Issledov. no. 1,
343-384 (1948). (Russian)

Sm
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Source: Mathematical Reviews.

Vol 11 No. 3

Raik, A.Ye. (Saransk)

New reconstruction of certain problems from ancient Egyptian and
Babylonian texts. Ist.-mat.issl. no.11:171-182 '58.

(MIRA 12:1)

(Mathematics, Babylonian)

(Mathematics, Egyptian)

KELMAN, E

p 4

16(1)

PHASE I BOOK EXPLOITATION SOV/1366

Istoriko -matematicheskiye issledovaniya, vyp. 11 (Research in Mathematical History, Nr 11) Moscow, Fizmatgiz, 1958. 792 p. 3,000 copies printed.

Eds. (Title page): Rytkin, G.F. and Yushkevich, A.P.; Ed. (Inside book): Konoplyankin, A.A.; Tech. Ed.: Murashova, N. Ya.

PURPOSE: This book is intended for mathematicians and others interested in the history of mathematics, and may serve as the basis for a suitable university text on the history of mathematics, thereby filling the most serious gap in Soviet mathematical literature.

COVERAGE: This book contains reports made by members of the section on the history of mathematics at the Third All-Union Mathematical Congress which discussed problems of the history of mathematics and various articles on the significance of the history of mathematics

Card 1/8

Raik, A. Ye. (Saratov). New Reconstructions of Certain Problems from Ancient Egyptian and Babylonian Texts

171

RAIK, A.Ye.

Ivan Mikheevich Pervushin, the mathematician from the Urals. Ist.-
mat. issl. no.6:535-572 '53. (MLBA 7:9)
(Pervushin, Ivan Mikheevich, 1827-1900)

RAIK, A.Ye.

RAIK, A. "APPROVED FOR RELEASE: 03/14/2001", In CIA-RDP86-00513R001344020008-9
matem. issledovaniya, Issue 1, Moscow, 1946, p. 342-44.

SO: u-3042, 11, March 53, (Letopis Nykh Statey, No. 9, 1949)

In memory of I.I.Raik. Vest.von.i derm. no.2:63 Mr-Ap '54. (MLRA 7:4)
(Raik, I.I., 7 -1953)

KHETAGUROV, G.I.; RAIK, I.O.

Results of four years of investigation on penacillin therapy of
syphilis. Sovet. med. no.5:21-23 May 1951. (CLML 20:9)

1. Of Leningrad Skin-Venereological Institute of the Ministry of
Public Health RSFSR (Director of Institute and Scientific Super-
visor of Syphilological Department--Prof. S.Ye. Gorbovitskiy).

SALTAIA, S.V.; RAIK, S.Ya.; DEGTYAREVA, V., red.

[Pectic substances and their importance in the national economy] Pektinovy veshchestva i ikh znachenie v narodnom khoziaistve. Kishinev, Kartia Moldoveniaska, 1963. 17 p.
(MIRA 17:12)

The mechanism of the catalytic transformations of polyethylene hydrocarbons. S. E. Raik. *J. Gen. Chem.* (U. S. S. R.) 11, 324-30 (1941).--Adjacent Carbons of the rings are adsorbed on 2 nearby active points on the catalyst surface. The interatomic distances of the Carbons and the active points, as well as the presence of strain in the rings, det. the exact point of union and the subsequent opening of the rings. Formation of branched-chain compds. is due to the position of adsorption of the ring. Isomerization and aromatization of the hydrocarbons go through intermediate free radicals. H. M. L.

The dehydrocyclization of substituted pentanes and of *gem*-substituted hexanes. A. A. Rulandin and S. E. Raik. *Compt. rend. acad. sci. U.R.S.S.* 56, 101 (1957) (In English).—Three postulates are given in an explanation of the dehydrocyclization of substituted α -pentanes and *gem*-substituted α -hexanes to yield aromatic compounds (cf. C.A. 40, 1700¹) by way of a skeleton isomerization. These postulates, which occur simultaneously, are: (1) In such substituted pentanes and hexanes a 5-membered ring compound is formed; (2) the 5-membered ring is isomerized into a hexahydrouromatic 5-membered ring in such a way that the α -C atom of the side chain enters into the 5-membered ring; and (3) the neighboring C-C bond of the 5-membered ring, to which this entering of the new C takes place into those bonds of this entering of the new C are farthest from the newly formed 5-membered ring that is formed from the newly formed bond of the 5-membered ring formed from the parent hydrocarbon. Thus, from 2,2,4-trimethylpentane, *p*-xylene is formed, whereas from 2,2-dimethylcyclohexane *m*-xylene is formed. Of the 9 cases investigated, the results are in quantitative agreement with the above postulates in 7 cases, with but 1 case being markedly divergent.

Myron Q. Webb

Myron Q. Webster

RAYK, S. Ye.

Mechanism of catalytic opening of rings. S. E. Rakh.
Problemy Kinetiki i Kataliza, Akad. Nauk S.S.S.R. 6, 61 (1949).
Geterogennyi Kataliz, 259-61 (1949).—Catalytic hydrogenation of cyclobutanes with side chains in the presence of Pt on an active C carrier, yielded open chain, branched hydrocarbons. Thus, the ring was broken preferentially in bonds remote from the point of attachment of the side chain. It is proposed that the catalyst attacks first one C atom, then the second neighboring C and causes stretching of the C—C bond. Considerations of steric hindrance and bond lengths indicate that the probability for a given C to become attached to the catalyst is related to the no. of H atoms attached to this C. The probability for the formation of the iso-compd. is 86%, since formation of the normal hydrocarbon would require that the tertiary C is attached before the ring opens. Similar considerations can be applied to the opening of pentamethylene ring; the yield of normal hydrocarbons from Me cyclopentene is 12% as compared to the predicted 11%; the actual yield of 2,4-dimethylpentene from 1,3-dimethylcyclopentane is 45%, while 50% is predicted. Several difficulties, however, are encountered in applying this mechanism to C₄ and C₅ rings, since it does not explain the greater difficulty to open a C₄ ring. The ability of the C atoms to rotate in C₄, which is absent in C₄, C₅, and C₆ rings, may serve as explanation.
 Andrew Dravnicka

RAIK, S. Ye.

Verbatim: - "The extension of the theory of multiples to the reaction of the dehydrocyclization of substituted pentanes and partial hexanes," Vestnik Mosk. un-ta, 1948, No. 12, p. 112-20, - Bibliog: 11 items

SC: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

CA

Use of the statistical method for the determination of the results of some contact reactions. S. E. Raik (Moscow State Univ.). *Vestnik Moskov. Univ.* 6, No. 10, Ser. Fiz.-Mat. i Estestven. Nauk No. 6, 69-78(1961). — (1) The no. of events sufficient for the probability that one single event will be applicable, within a small stated uncertainty, to a large no. of events, is estd. with the aid of the principle of practical assurance. The problem is to det. the no. n of elementary acts of a given catalytic reaction necessary for the statistical probability to differ from the probability derived on the basis of the mol. structure, by a magnitude α not to exceed the error. For reactions where the products can be detd. to within 0.01%, α is of the order 10^{-4} . With the aid

of Laplace's functions, $n = (4.48/\alpha)^2 pq$, where p and $q = 1 - p$ are the elementary probabilities of the alternative outcomes of a ring-opening reaction. As an example, p and q correspond to: methylcyclobutane $\rightarrow$ pentane ($p = 0.14$) + 2-methylbutane ($q = 0.86$); methylcyclopentane $\rightarrow$ (hexane + 3-methylpentane) (0.33) + 2-methylpentane (0.67); 1,1-dimethylcyclopentane $\rightarrow$ 3,3-dimethylcyclopentane (0.25) + 2,2-dimethylpentane (0.75); 1,2-dimethylcyclopentane $\rightarrow$ 3-methylhexane (0.25) + 2,3-dimethylpentane (0.75); 1,3-dimethylcyclopentane $\rightarrow$ (3-methylhexane + 2-methylhexane) (0.60) + 2,4-dimethylpentane (0.40). In all these instances, n is of the order of 10^4 mols., which corresponds to $\sim 10^{-10}$ g. of substance undergoing reaction. Consequently, the application of *a priori* probabilities under the usual conditions of catalytic expts. is fully justified. (2) Probabilities of cyclization of hexanes are estd. on the assumption that the hexane is adsorbed by one C atom, and cyclization occurs if the hexane folds in such a way that the 6th C atom comes into close contact with the C atom adsorbed. On account of free rotation around C—C bonds, there is a definite finite probability P that this will happen. The probability that the 1st 3 C atoms lie in one plane is taken to be a certainty. The probabilities that the 4th and the 5th C atoms will take positions favorable to ring closing are equal, and are shown to be $1/2$ each, i.e. the probability that both take such positions is $1/4$. For the 6th C atom,

the probability is $1/n$, and hence the total $P = 1/n$. That is the probability that a mol. will possess a configuration favorable for the closing of a 6-membered ring at the moment of adsorption of one of its C atoms. The fraction $P = 1/n$, multiplied by the probability of adsorption of a suitable C atom, gives the probability p of cyclization. (3) The no. of contacts c between a mol. susceptible of cyclization, and the catalyst, which leaves a stated fraction β of the reactant uncyclized, can be expressed by $c' = \beta$, or by $c' = \gamma \leq \beta$, where c is now the smallest integer satisfying the inequality. These relations permit, with a known β and a prescribed γ (or γ), the calcn. of c and hence, if an assumption is made with regard to the no. of active points g per unit amt. of catalyst, also the min. amt. of catalyst g necessary for the cyclization of a given amt. of hydrocarbon. As an example, if for catalysts of the type of $Al_2O_3 + 10\% ZnO$, or bauxite, $\sim 2 \times 10^{18}$ active points/g. catalyst, in order to cyclize 0.1 ml. hexane (4.83×10^{23} mols.) down to $\beta = 10^{-4}$, $c = 754.15$ contacts and, hence, 21430 g. catalyst is necessary. This amt. decreases if the prescribed β is made smaller; e.g., for $\beta = 10^{-1}$, $g = 2668$ g. The same dependence of the fraction reacted on the probability is expressed by the 2 formulas, $\gamma = \beta$ and $K_p = \log [1/(1 - \alpha)]$, where $\alpha = 1 - \beta$. The exptl. yields of cyclization, from data of Kazanskii and Plata (C.A. 33, 9294¹) on Pt, and of Hoog, Verbeus, and Zuiderweg (C.A. 33, 9293²) on Cr_2O_3 , can be represented equally well by either of these formulas. The factor detg. yields of aromatization is the probability of cyclization of the given hydrocarbon. N. Thon

MORDKOVICH, M.S.; RAIK, S.Ya.; ARASIMOVICH, V.V.

Losses of pectin substances in the production of tomato paste.
Kons. i ov. prom. 18 no.11:19-21 N '63. (MIRA 16:12)

1. Moldavskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti (for Mordkovich). 2. Institut fiziologii i
biokhimii rasteniy AN Moldavskoy SSR (for Raik, Arasimovich).

RAIK, S.Ye.; KAZANSKIY, B.A.

Production of ethyl ester of cyclobutane-1, 1 dicarboxylic acid. Vest.Mosk.
un. no.3:125-128 Mr '53. (MLRA 6:6)

1. Laboratoriya organicheskogo kataliza. (Ethyl esters)

Raika, E.

The pathogenesis of urticarial pruritus. III. Quantitative
evaluation of the effects of various drugs on morphine-in-
duced pruritus. E. Raika, S. Korossy, and Marianne
Glozony (Stevens' Hosp., Budapest). *Dermatologica* 112,
81-107(1956)(in German)(English summary); cf. C.A. 50,
1178b.—Of 78 drugs, of various types, tested (3008 tests)
44 were found, in the majority of cases, to prevent the oc-
currence of exptl., morphine-induced, pruritus. In no case
was 100% inhibition obtained. Henry B. Hastie

Med

3

RAIKH, I.Ya., inzhener; FAYNGERSH, Ya.D., inzhener.

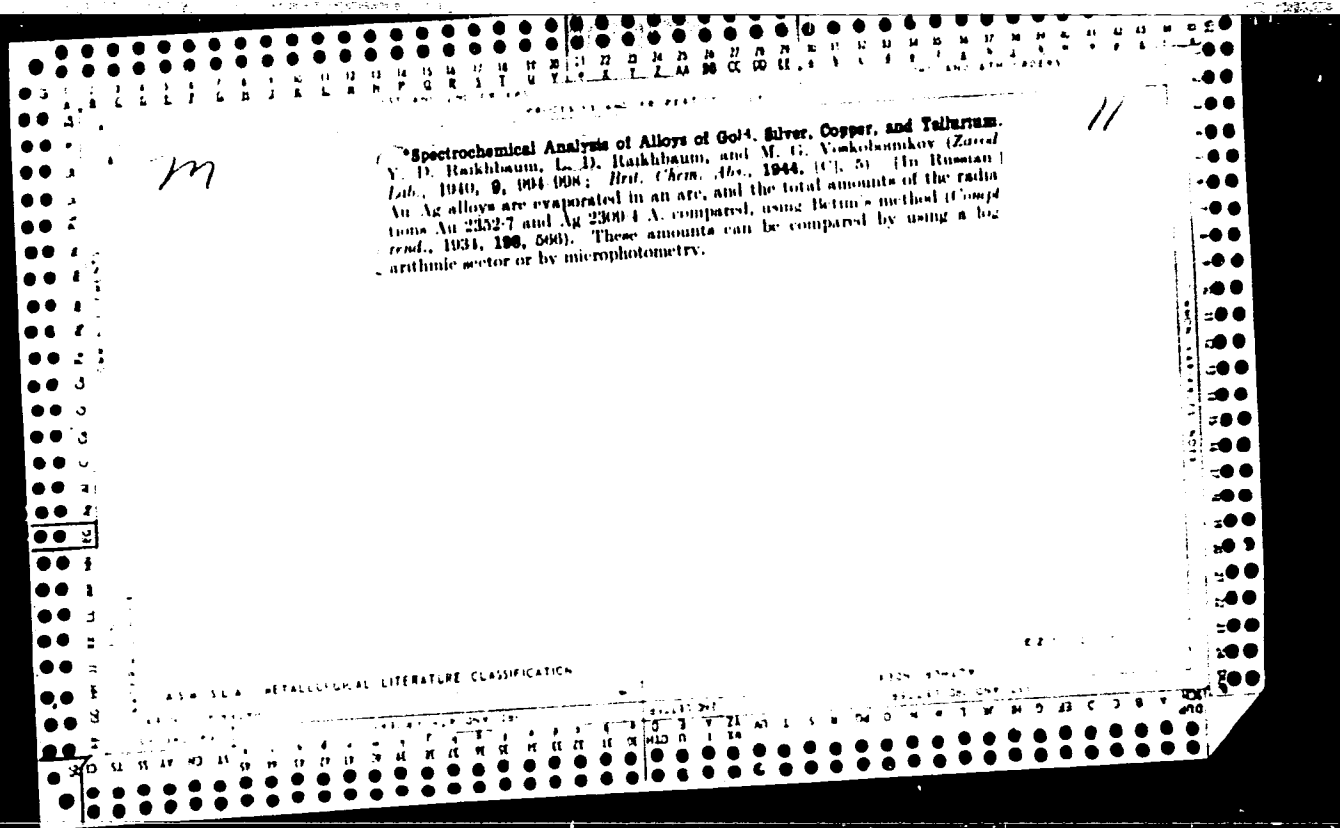
Mechanical method of making openings in masonry walls. Mekh.stroi.
11 no.11:28-29 N '54.

(MLRA 7:12)

(Masonry) (Drilling and boring)

*Quanta, but not detection is
application of photometry*

531
778.3 : 535.33
Photometry of Spectra of Variable Intensity and of Spectral Lines of Low Intensity.
J. D. RALPHBAUM. *Bull. Acad. Sci. U.R.S.S., Ser. Phys.*, 9, 765-768, 1945.—In
SLAVIN's "spectral energy" method—complete vaporization of the sample in
an electric arc—it is necessary to understand the laws governing the integration
by the photographic plate of the varying energy of emission. An account is
given of the results of experiments in the photometry of continuous spectra
from an incandescent lamp with voltage stabilizer when the intensity was subject
to continuous change produced by the opening and closing of the slit of the
spectrograph by means of a constant speed motor. *Brit. Abs. C.*



[illegible]

mn

Spectrochemical Analysis of Alloys of Gold, Silver, Copper, and Tellurium.
 Y. D. Raikhbaum, L. D. Raikhbaum, and M. G. Vaskovskoy (Zavod
 Lab., 1940, 9, 194-198; *Brit. Chem. Abs.*, 1944, 10, 5). (In Russian.)
 Au-Ag alloys are evaporated in an arc, and the total amounts of the radia-
 tions Au 2352.7 and Ag 2300.4 Å. compared, using Batin's method (*Compt
 rend.*, 1934, 198, 549). These amounts can be compared by using a log
 anthmic sector or by microphotometry.

11

ASA 55A METALLURGICAL LITERATURE CLASSIFICATION

7

2A

Spectral analysis of alloys of gold, silver, copper and tellurium. V. D. Raikhsaun, L. D. Raikhsaun and M. G. Voskresnikov. *Zavodskaya Lab.* 9, 1991, 841040. Exptl. details for the spectral detn. of Ag, Cu and Te in Au nuggets of 3-5 mg. R. Z. Kamich

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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| 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 00 |
|----|

Determination of tungsten in minerals by the comparison of spectral energies. Ya. D. Raikhsbaum. *Zavodskaya Lab.* 8, 601-5 (1939).—W was detd. from the relative values of the spectral energies corresponding to 2 spectral lines of different elements. Co was added to the soln in const. concn. and the selected pairs of lines were photometered to det. the relative values of the energies emitted by W and Co during complete vaporization in an atm. of d. c. The nature of the chem. bond of W had no effect on the results. The varying thermal stabilities of the different W compds. govern only the rate of vaporization of the W atoms. Vaporization of W and Co is hindered by presence of large amts. of NaCl but it becomes more intensive as the temp. of the atm rises and the NaCl is vaporized. B. Z. Kamich

H. G. Kasube II

A S M - S L A METALLURGICAL LITERATURE CLASSIFICATION

24

7

Local spectral analysis of Au surfaces. Ya. D. Rafkhauim. *Zavodskaya Lab.* 10, 168-70(1941); *Chem. Zentr.* 1943, II, 1118; cf. *C.A.* 37, 2297. -Local spectral analysis offers a means of supplementing the mineralogical and quant. spectral analysis of Au ores. It is possible to det. the qual. compn. of films of Au plate. Only with samples of less than 0.5 mg. were unsatisfactory results obtained. In these cases the samples were dissolved in acid and the solns. analyzed. M. G. Minne

ASAC 124 METALLURGICAL LITERATURE CLASSIFICATION

7-A

Intensifying & Densitometry

187
771.534.56
Photographic Action of Light of Variable Intensity. YA. D. RAKHBAUM. *J. Tech. Phys. U.S.S.R.*, 15, 485-8, 1945.--Photographic plates are illuminated with light of a gradually increasing or gradually decreasing intensity. The optical density of the image at a constant exposure is, for an increasing intensity, smaller than for a decreasing one and greater than for a constant intensity and variable time. When the rate of variation of light intensity rises, density rises also. These results must be borne in mind when using density in spectrographic analysis.
Brit. J. Phot. Abs.

F-A

*Operational Light-Induced
Method and Apparatus*

1145

77.021.1 : 544.62

Spectrographic Determination of Silver in Photographic Emulsions. YA. D. RAIKHEUM and YA. M. DYMISHITS. *Izvest. Akad. Nauk. S.S.S.R., Ser. Fiz.*, 1948, 12, 477-480.—Samples of the order of 0.04-0.1 sq. cm. of the emulsion are calcined and thoroughly mixed with a known amount (100-200 mg.) of a mixture of 25 mg. of anhydrous sodium sulphate, 25 mg. of anhydrous potassium sulphate, 50 mg. of graphite and 0.05 per cent of tin as standard. The determination is done in an a.c. arc under 10 amp., by the line pair Ag. 3280.68-Sn 3262.33A. The log calibration curve is rectilinear between 0.0002 and 0.02 per cent silver. The probable error of a single determination is 8.4 per cent. The method was used to determine for various types of emulsions the photometric constants and the mean mass of the developed grains.

Chem. Abs.

5

Photographic action of light of variable intensity - V.A.
D. Ralkhaun. *J. Tech. Phys.* U.S.S.R., 15, 186 S
1947r. Photographic plates are illuminated with light of
a gradually increasing or gradually decreasing intensity.
The optical density of the image at a const. exposure is for an
increasing intensity smaller than for a decreasing one and
greater than for a const. intensity (and variable time).
When the rate of variation of light intensity rises, it rises
as well. These results must be borne in mind when it is
used for spectrographic analysis. J. J. Bikerman

ASB SLA METALLURGICAL LITERATURE CLASSIFICATION

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U.S. NATIONAL BUREAU OF STANDARDS

Quantitative Spectral Analysis of Tin, Lead, and Bismuth Alloys. Ya. I. Aikhshteyn (*Zavod. Lab.*, 1939, 8, 1101-1105; *Chem. Zvest.*, 1942, 113, (11), 1042; *C. A. B.*, 1943, 37, 5332).—[In Russian.] The mathematical basis of spectral analysis is explained and various curves are given which were obtained by experiments with the Huger spectrograph. Results accurate to within about 1% were obtained even with high concentrations of Sn, Pb, and Bi.

A 50.314 METALLURGICAL LITERATURE CLASSIFICATION

Spectrographic determination of silver in photographic emulsions. Ya. D. Kalkhsaum and Ya. M. Dymshits. *Izv. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 677-80, (1948).
 Samples of the order of 0.01-0.1 sq. cm. of the emulsion are calcined and thoroughly mixed with a known amt. (100-200 mg.) of a mixt. of Na_2SO_4 , 25, K_2SO_4 , 25, graphite 50, and Sn 0.05%, as standard. The detn. is done in an a.c. arc under 10 amp., by the line pair Ag 3281.68-50 $\text{\AA}$ and 3282.34 $\text{\AA}$. The log-log calibration curve is rectilinear between 0.0002 and 0.02% Ag. The probable error of a single detn. is 8.4%. The method was used to det. for various types of emulsions, the photometric const. and the mean mass of the developed grains. N. Thom.

RAIKHER, G. S.

Gruzooborot transporta v novoi piatiletke. [Freight turnover in the new five-year plan] (Zhel-dor. transport, 1946, no. 2-3 p. 33-41). "Additional details on freight traffic by region and commodity. Supplements Kovalev's pamphlet.

DLC: HE7.Z5

Gruzovye perevozki. [The freight transport]. (In Levin, B.I. Osnovnye voprosy piatiletnego planavosstanovleniia i razvitiia zheleznodorozhnogo transporta. Moskva, 1947, p. 111-136).

DLC: HE3137.L4

Osvobodit' zheleznye dorogi ot korotkoprobezhnykh perevozok. [To free the railroads from short distance shipments. (Zhel-dor. transport, 1945, no. 10 11, p. 70-73).

DLC: HE7.Z5

Ratsionalizatsiia zheleznodorozhnykh perevozok v tret'em piatiletii. [Rationalization of railroad shipments in the third five-year plan] (Problemy ekonomiki, 1940, no. 2, p. 88-97

DLC: HB9.P75

Za bor'bu s neratsional'nymi korotkoprobezhnymi perevozkami. [Against inefficient short distance shipments] (Sots. transport, 1940, no. 3, p. 8-11) "1935 and 1938 data on proportion and amount of such shipments.

DLC: HE7.S6

SO: Soviet Transportation and Communication A Bibliography. Library of Congress Reference Department, Washington 1952, Unclassified

U.S. ...
... 1-1, #12-22(1949)

24

10

Characteristics of α,β -unsaturated ketones. II. V. I. Kiselev and I. I. Ralkher. *J. Gen. Chem.* (U. S. S. R.) 13, 13 (1943) (English summary); cf. *C. A.* 35, 3038⁹. It was shown that the displacement of ketones by aldehydes from α,β -unsat. ketones is connected with the preliminary hydrolytic cleavage of the latter into its components. BaI_2 , treated with mesityl oxide in the presence of dil. NaOH , yielded small amounts of benzylidenacetone and benzylidenmesityl oxide, the latter being isolated as the tetrahydrate, m. 118° (from RtOH). The reactions were conducted by prolonged standing at about 10°, with a longer period noticeably increasing the yield of benzylidenacetone. Me_2CO was shown to be inert to condensation on treatment with piperidine acetate on prolonged heating on a steam bath; the same result was obtained when Me_2CO was used. However, 25 g. BaI_2 , 30 g. Me_2CO , 5 g. piperidine and 5 g. AcOH yielded, after 20 hrs. heating, 71% benzylidenacetone, m. 41.6°, while similar reaction with mesityl oxide gave crude benzylidenmesityl oxide b.p. 172-5°, identical as the tetrahydrate. Thus, piperidine acetate may be recommended for aldehyde-ketone condensations. G. M. Kosolapoff

ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION

RAIKHER, M.E., professor; KAMINSKIY, I.N., inzhener; NIKOL'SKIY, V.S.,
redaktor; SUROVA, V.A., redaktor; ANDREYEV, G.G., tekhnicheskii
redaktor.

[Complex time study in coal mines and pits] Kompleksnyi khronometrazh
na ugol'nykh shakhtakh i kar'erakh. Moskva, Ugletekhizdat, 1954.
203 p. (MIRA 8:5)
(Time study)

RAIKHER, M.E.; KAMINSKIY, I.N.

[Complex timekeeping in coal mines and pits]. Kompleksnyi khrono-
metrazh na ugol'nykh shakhtakh i kar'erakh. Moskva, Ugletekhnizdat,
1954. 204 p. (MIRA 8:3D)

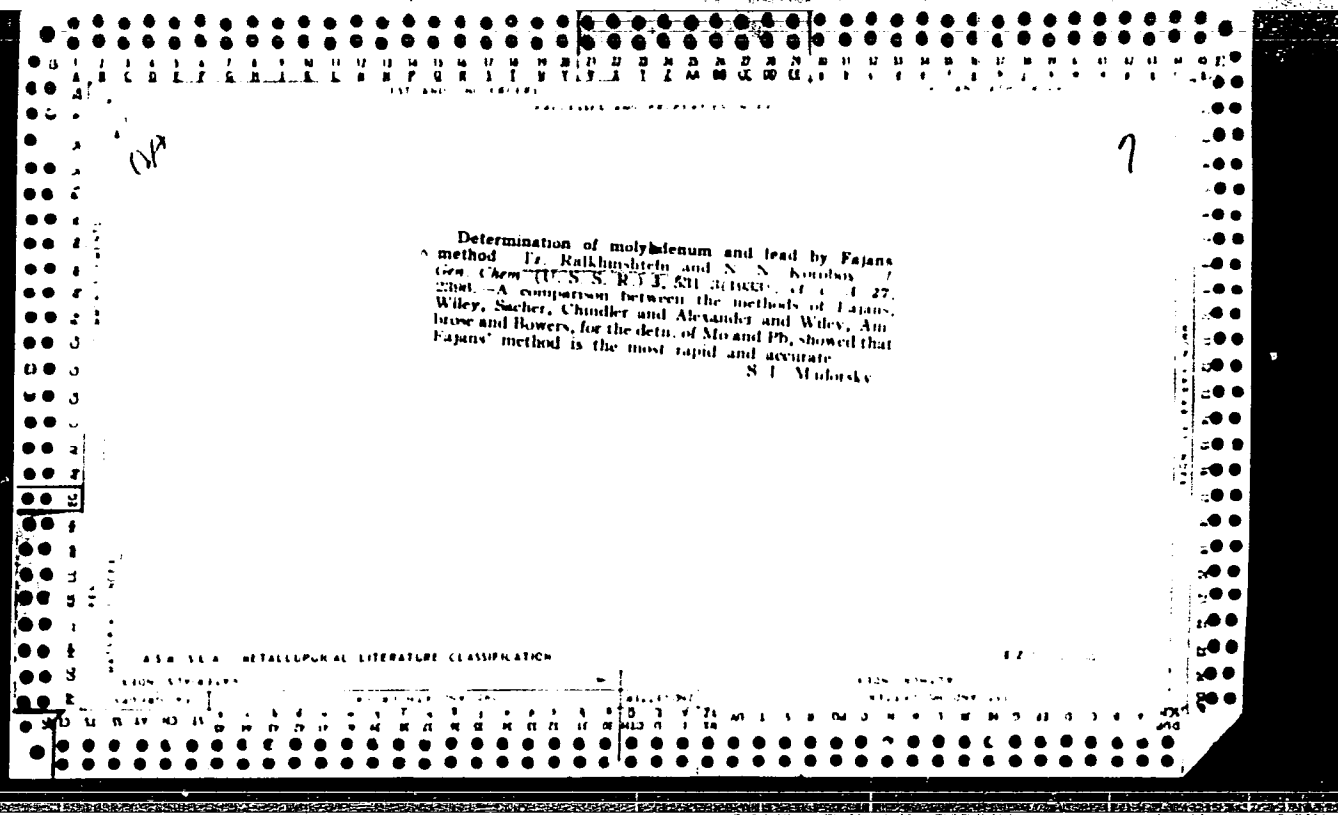
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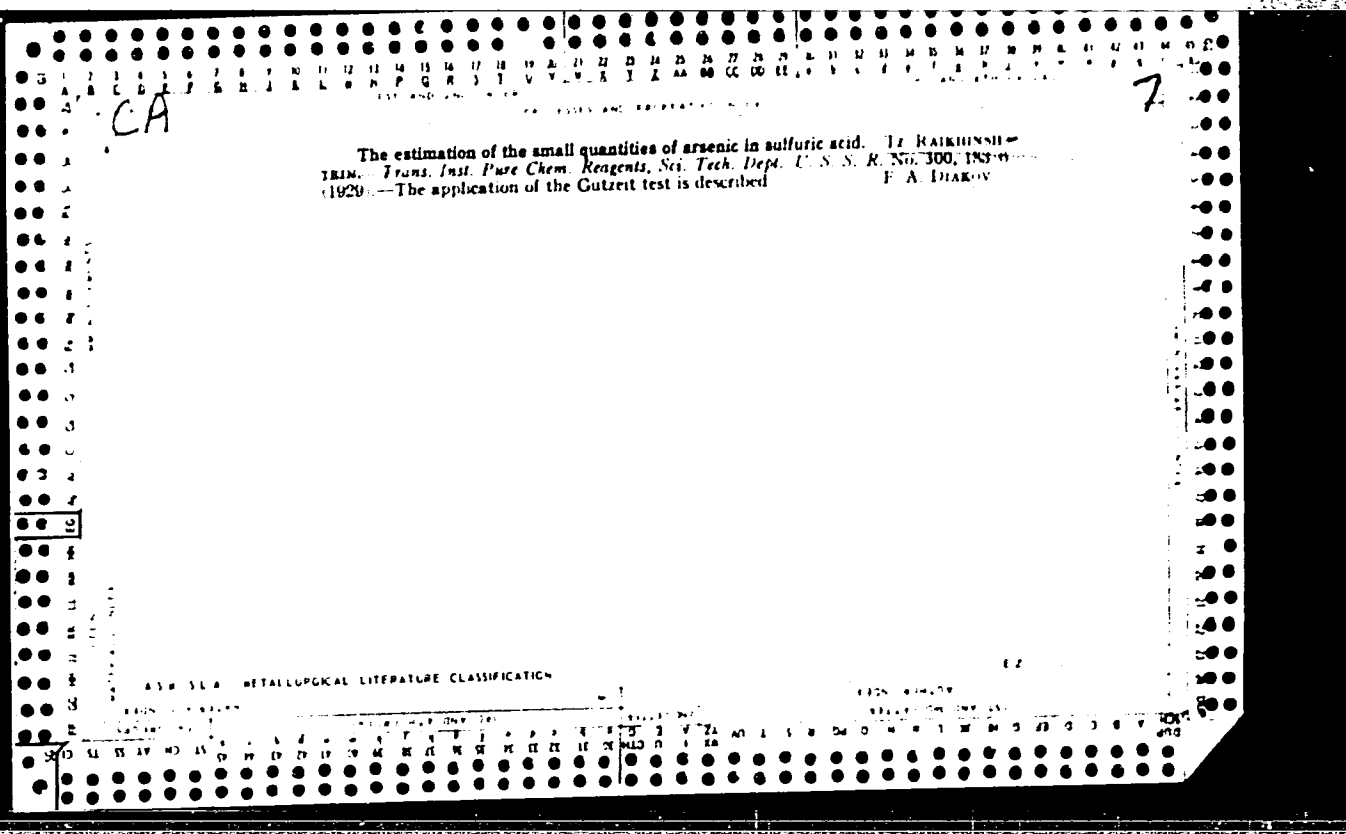
7

Determination of molybdenum and lead by Fajans method. Tr. Ralkhinshteln and N. N. Korobov. *J. Gen. Chem.* (U.S.S.R.) 3, 531 3(1933); cf. C. A. 27, 2393. —A comparison between the methods of Fajans, Wiley, Sacher, Chindler and Alexander and Wiley, Ambrose and Bowers, for the detn. of Mo and Pb, showed that Fajans' method is the most rapid and accurate. S. I. Madorsky

ASA 3.1.1 METALLURGICAL LITERATURE CLASSIFICATION

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| 1ST AND 2ND GROUPS | | | | | | | | | | | | | 3RD AND 4TH GROUPS | | | | | | | | | | | | |
| <p>Determination of molybdenum and lead by the method of Fajans. I. T. RAI-KHISMETIN AND N. KOROBOV. <i>J. Gen. Chem.</i> (U. S. S. R.) 2, 661-5 (1932) 77 PAPERS (C. A. 15, 2223; 17, 3633, etc.) developed a method for the volumetric detn. of Ag halides with the application of adsorption indicators, which forms the basis of the present method for the detn. of Pb and Mo. $(\text{AcO})_2\text{Pb}$ in H_2O gives with a little alizarin red (I) a violet soln., and with an excess a violet ppt. of the Pb salt of I; on addn. of $(\text{NH}_4)_2\text{MoO}_4$ to the soln. the ppt. of PbMoO_4 formed completely adsorbs, at an adequate concn. of I, the Pb salt of I with violet color until the equiv. amt. of $(\text{NH}_4)_2\text{MoO}_4$ is added. With the slightest excess of $(\text{NH}_4)_2\text{MoO}_4$ the anion MoO_4^{2-} displaces the anion of I, and the color of the ppt. is sharply changed to rose with orange tint. Any further addn. of $(\text{NH}_4)_2\text{MoO}_4$ does not affect the color of the ppt. In the expts 0.5 cc. 1% I was added to the soln. of $\text{Pb}(\text{NO}_3)_2$ or $\text{Pb}(\text{OAc})_2$ and the soln. was brought to a boil and titrated with a standard soln. of $(\text{NH}_4)_2\text{MoO}_4$. For the detn. of Mo, an excess of standard soln. of Pb salt was added to the soln. of a molybdate, the soln. was brought to a boil, 0.5 cc. 1% I was added, and the excess of Pb titrated back with a standard molybdate soln. The standard solns. of $\text{Pb}(\text{NO}_3)_2$ and $\text{Pb}(\text{OAc})_2$ were prepd. by adding aq. NH_3 to the ppt. of $\text{Pb}(\text{OH})_2$ just forming and dissolving the ppt. with AcOH. The solns. used were 0.1245 N, 0.1131 N and 0.0151 N with concns. of AcOH of 0.1-0.4 N. The vol. of all titrated solns. was 40 cc. The titer of Pb solns. was detd. as PbSO_4 and checked by electrolysis, and that of $(\text{NH}_4)_2\text{MoO}_4$ by evapg. to dryness and gently igniting in a Pt dish. Good results were obtained at different concns. of the titrated solns., but with the concns. of a molybdate below 0.01 N the amt. of I should not exceed 0.5 cc. 1% soln. The method can be used for the detn. of oxides of Pb by dissolving them in AcOH or HNO_3 and neutralizing with NH_3, in which case the concn. must be below 1 N for NH_4OAc or 2 N for NH_4NO_3. Titration of Pb and Mo by this method in the presence of the acetates and nitrates of heavy metals and other elements which form difficultly sol. salts with $(\text{NH}_4)_2\text{MoO}_4$ is impossible.</p> <p style="text-align: right;">CHAS. BLANC</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>ASAC-31A METALLURGICAL LITERATURE CLASSIFICATION</p> | | | | | | | | | | | | | | | | | | | | | | | | | |

Rapid Method for the Determination of Tungsten. Tz. Raikhinshtein and N. Korobov (*Zhur. Priklad. Khimii* [*J. Applied Chem.*], 1935, 8, (1), 184-187; *C. Abstr.*, 1935, 29, 7219).—[In Russian.] The determination is carried out titrimetrically with Pb acetate in the presence of Diamine (*Lecht Schurbaek* 0.5N indicator. Good results can be obtained with neutral or slightly acid solutions. The concentration of HNO₃ should not exceed 0.005N and that of HCl 0.003N towards the end of titration. The determination cannot be made in the presence of NH₄Cl or Na acetate.—N. B. V.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

Oxidation-reduction indicators. 1. New indicators for
 the titration of tin and antimony by bromates. 1.
 G. Ralkhishvili. *J. Applied Chem. U.S.S.R.* 8,
 1120 (1955, German). 2. Sn²⁺ is oxidized in
 10% HCl soln. at 40°C. with benzopurpurin 4B as
 benzopurpurin 4B as indicator. Sb³⁺ can be titrated by
 bromate in 10% HCl soln. with benzopurpurin 4B.
 H. M. Tene.

| ALPHABETIC INDEX | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>Potentiometric determination of sulfates. I. I. Zhukov and Ya. G. Raikhshtein. <i>J. Gen. Chem.</i> (U. S. S. R.) 4, 1012 (1934).--As the foundation for this detn. Kolthoff's method based on the use of Pb tetra-ferrocyanide as an indicator electrode was used. Portions of Na_2SO_4 soln. were treated with alc., some $\text{K}_4\text{Fe}(\text{CN})_6$ and some $\text{K}_3\text{Fe}(\text{CN})_6$ and titrated with $\text{Pb}(\text{NO}_3)_2$ soln. V. D. Karpenko</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| ASACSLA METALLURGICAL LITERATURE CLASSIFICATION | | | | | | | | | | | | | | | | | | | | | | | | | |
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ARISTOV, Grigoriy Andrianovich; ⁴²RAKHLEIN, I., redaktor; SHEVELEVA, A.,
redaktor; IGHAT'YEVA, A., tekhnicheskiiy redaktor

[Infinite universe] Vselennaya beskonechna. [Moskva] Mo-
skovskii rabochii, 1955. 110 p. (MIRA 9:3)
(Cosmogony)

PARERAGO, Pavel Petrovich; RAKHILIN, I.Ye., redaktor; ZARMAKOV, Ye.A.,
tekhnicheskiiy redaktor

[In the world of stars] V mire zvezd. Moskva, Gos.izd-vo tekhniko-
teoret. lit-ry, 1957. 95 p. (Populiarnye lektsii po astronomii,
no.5)

(Astronomy)

(MLRA 10:10)

CA

Use of cationic soaps. A. I. Matetskii and F. I. Ralkhin. *Tekstil. Prom.* 1941, No. 5, 35-6; *Chem. Zentr.* 1943, I, No. 4, 463. —Cationic soaps were prepd. from cetyl and octodecyl alcs. and mixts. of high-mol. alcs. produced from cottonseed oil and seal oil. The following compds. were used as bases: pyridine, pyridine bases (b. p. 142-53°), trimethylamine, diethylaniline. Expts. in the washing of wool and dyeing of cotton- and half-wool material showed cationic soaps are valuable products, and their use in the dyeing and finishing of fiber is desirable.

Sonya G. Machelson

Earmarking of sheep with a composition which is stable and which can be washed off. A. I. Matetskii and E. I. Raikhl'm. *Sherstnyye Delo* 1939, No. 1, 11-15. A suitable compn. for earmarking of sheep contains a mineral pigment, lanolin and benzene. Chalk can be added to increase the η and also a small amt. of wax. The marking is not washed off with hot or cold water and is completely removed by soap-alk. washing. A typical compn. contains lanolin 30, benzene 15, pulverized chalk 14, and pigment 3-4 parts by wt.

B. Z. Kamich

B. Z. Kamech

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

22

Stabilization of mineral-oil emulsions. F. M. Raikhlin. *Tekstil. Prom.* 7, No. 2, 34-8 (1947). In an effort to eliminate olefin from wool-scouring emulsions, emulsion of solar oil and spindle oil, together with Kontakt (sulfonated naphthenic acid) and Nekal (butylnaphthalene-sulfonate) detergents were tested for stability. An emulsion of 20-25% spindle oil, 8% olein, 4% NH_4 and 68-69% H_2O was stable after 240 hrs. Substitution of solar oil in this formula reduced this time to 24 hrs. An emulsion contg. 3.5% Nekal gave 240-hr. stability with 20-30% spindle oil and 77-87% H_2O . Substitution of solar oil decreased time of stability to 24 hrs. Increasing Nekal content to 7-10% reduced stability to 3 hrs. An emulsion consisting of 4% Kontakt, 20% spindle oil, 1% Na_2CO_3 , and 75% H_2O was recommended for use. M. S.

1.1.1 METALLURGICAL LITERATURE CLASSIFICATION

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| 1ST AND 2ND ORDERS | | | | | | | | | | | | | 3RD AND 4TH ORDERS | | | | | | | | | | | | |
| <p>*Cast Hard Alloys (Volomit, Perdurum, Volramit, Relit). N. Zarubin and I. Raikhlin. (<i>Kokhe Metally</i> (<i>Hard Metals</i>), 1934, (1), 31-42). [In Russian.]
 From a microscopical study of cast hard alloys with a tungsten carbide basis their porosity is proved to be greater than that of sintered alloys (Widia, Carboloy, Pobedit), of alloys produced by hot-pressing and of alloys of the Stellite type. The outside of castings is more porous, and consists chiefly of tungsten carbide (WC) with excess of carbon, whereas the central portion appears to consist of the two carbides WC and W₂C. Alloys cast into octagonal or ovoid moulds contain more carbon than those cast into cylindrical moulds. As the volume of the casting is increased, so the carbon content diminishes. Owing to casting difficulties, the alloy are often non-homogeneous in composition and properties, but good castings have a Rockwell C hardness of 60-65. -D. N. S.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p> | | | | | | | | | | | | | | | | | | | | | | | | | |

RAIKHLIN, N.T. (Moskva)

Compensatory adaptation modifications in the lungs in pneumoconioses.
Arkhl.pat. 18 no.3:18-23 '56 (MIRA 11:10)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent
AMN SSSR prof. A.I. Strukov) I Moskovskogo ordena Lenina meditsinskogo
instituta imeni I.M. Sechenova.
(PNEUMOCONIOSES, physiol.

compensatory adjustment modifications of lungs (Rus))

1ST APP 2ND ORDER

PROCESSED BY THE FBI

7

ca

Rapid method for determining tungsten — Iz. Raskin, Zhukov and N. Kozlov. *J. Applied Chem.* (U.S.S.R.) **8**, 1237 (1955). The detn. is carried out with Phosphate (phosphomolybdic) in the presence of "diamine" as indicator. Good results can be obtained with neutral or slightly acidic solutions. The concn. of HNO₃ should not exceed 0.005 N and that of HCl to 0.01 N toward the end of titration. Na and NH₄ nitrates are permissible in higher concns. The detn. cannot be made in the presence of NH₄Cl or CH₃COONH₄. This method may also be used for detg. Pb in W solns. — Nine references.

A. A. Boshchuk

ASH 51.4 METALLURGICAL LITERATURE CLASSIFICATION

| 1ST AND 2ND ORDERS | 3RD AND 4TH ORDERS | |
|--|--------------------|
| PROCESS AND PROPERTIES INDEX | |
| <p>Offset forms from blood albumin. I. A. Pakovich and V. S. Raikhlil. <i>Poligraf. Proizvodstvo</i> 1941, No. 1, 8-11; <i>Chem. Zentr.</i> 1942, II, 2000. — Light-colored purified blood albumin can be used as a substitute for egg albumin. A soln. of 8% blood albumin, 2% $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ (25% of the dry albumin) and 90% H_2O gives a light-sensitive layer from which 3-4 times more positives can be made than from egg albumin. The treatment is the same as for egg albumin. Sonya G. Machelson</p> | |
| <p>ASAC SLA METALLOGICAL LITERATURE CLASSIFICATION</p> | |

ca

9

Cast hard alloys. N. Zarubin and Yu. Raikhin. *Russk. Metal.* 3, No. 1, 31-32 (1964). Micrographs examn. of cast alloys consisting principally of W carbides shows that these are more porous than those prepared by sintering. The alloys absorb C while being melted and cast in graphite forms; this results in a higher C content in the outer layers. Some specimens had a coarse microstructure while others had a fine one. A hardness of 95 Rockwell "C" was obtained. H. W. R.

ASB-55-A METALLURGICAL LITERATURE CLASSIFICATION

EX-100

TOXICITY OF RARE METALS

Ed. Z. I., Ed., Professor

Monograph on the toxicology of rare metals (Monography of Rare Metals), Moscow, 1953. 335 p. 1500 copies printed.

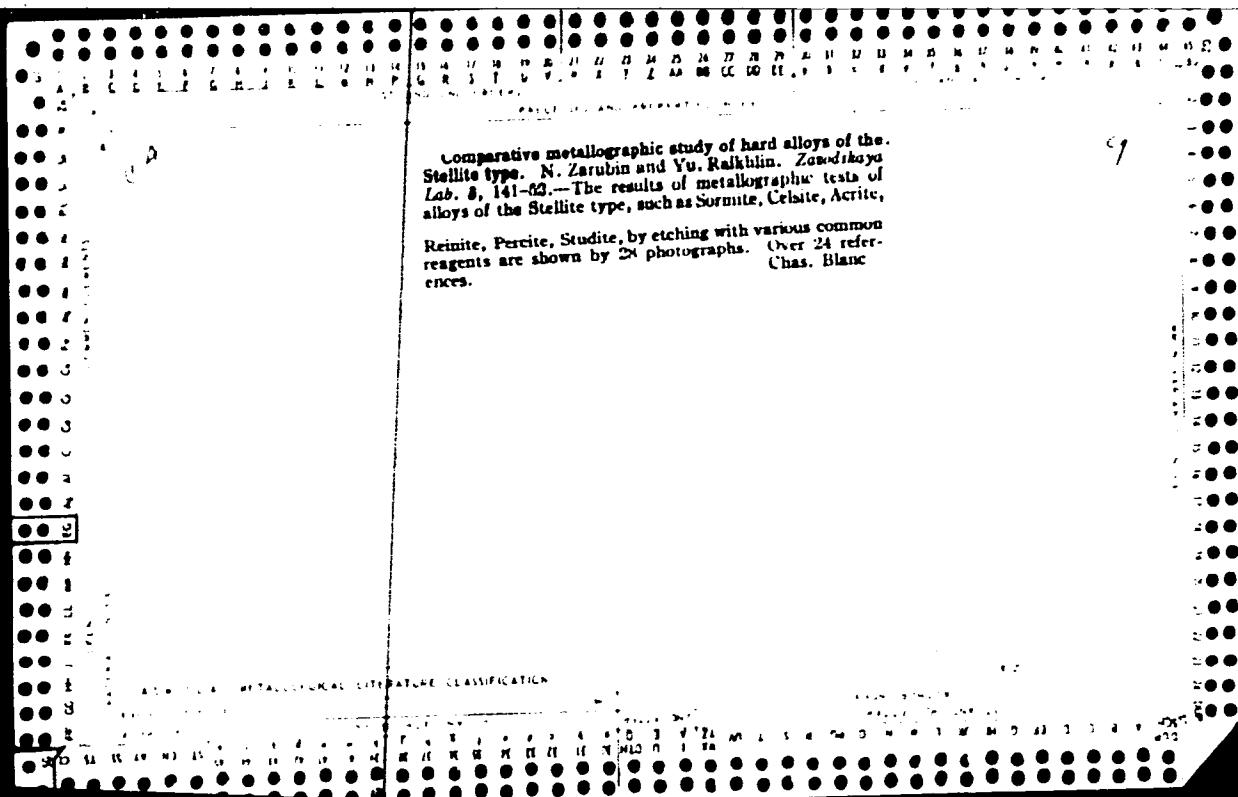
Author: Khamidullin; Tech. Ed.: Yu. S. Bel'chikova.

The book provides information on the toxic effects of rare

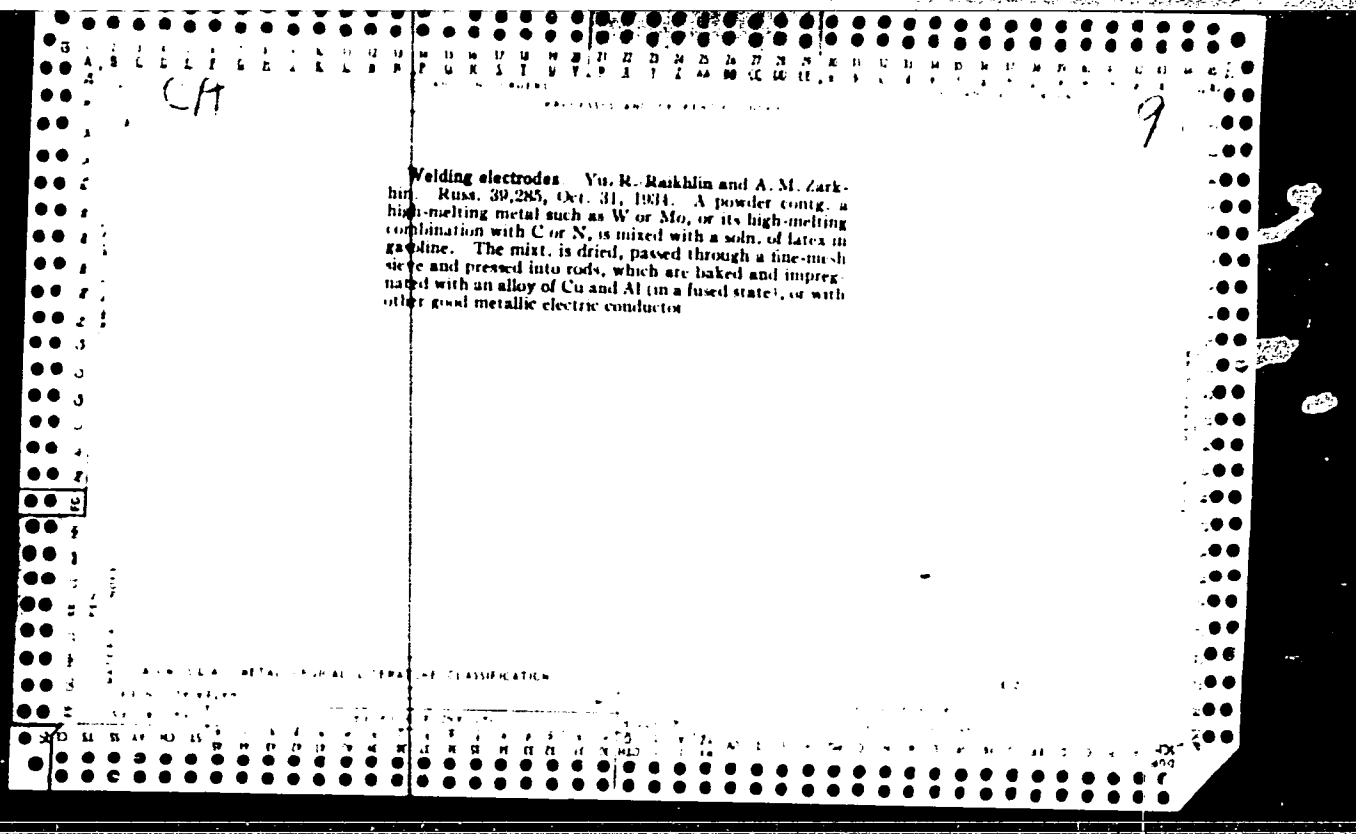
metals on the basis of the experimental and clinical applications of rare metals. The clinical picture and the clinical picture of rare-metal poisoning is also given. There are 100 references.

III. Experimental Studies of the Effect on an Organism of Rare, Dispersed, and Other Metals Used in Industry and Their Compounds.

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| 11. Cadmium. M. S. Kaplun (Deceased) | 161 |
| 12. Barium compounds. G. I. Runyantsev | 176 |
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| 1ST AND 2ND GROUPS | | | | | | | | | | | | | 3RD AND 4TH GROUPS | | | | | | | | | | | | |
| <div style="text-align: right;">3</div> <div style="text-align: center;"> <p>*Comparative Metallographic Study of Hard Alloys of the Stellite Type
 [Sormite, Celcite, Acrite, Reinite, Studite]. N. Zarubin and Yu. Raikhlin.
 <i>(Zavolazhskaya Luch., 1934, 3, 141-152; C. Abs., 1935, 29, 98).</i> — [In Russian.]
 The results of metallographic tests of alloys of the Stellite type, such as Sormite,
 Celcite, Acrite, Reinite, and Studite, by etching with various common reagents,
 are shown by 23 photographs. A number of references is given.—S. G.</p> </div> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="display: flex; justify-content: space-between;"> <div> <p>ASH-31A METALLURGICAL LITERATURE CLASSIFICATION</p> <p>193000 193000</p> </div> <div> <p>193000 193000</p> <p>193000 193000</p> </div> </div> | | | | | | | | | | | | | | | | | | | | | | | | | |



CA

9

Welding electrodes. Yu. R. Rankhin and A. M. Zarkhin. Russ. 38,715, Sept. 30, 1934. Electrodes are prep'd. from powdered hard metals, such as W, covered (electrolytically or by substitution) with a metal layer that is a good conductor, such as Cu pptd. from a soln. of its salts.

ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED

Method for making metac ceramic products. Yu. R.
RAIKLIN AND A. M. ZAREKIN. Russ. 56,976, April 30,
1910. 40. 17. Such products are made from powdered
metals to which may be added diamond dust. The molded
powder is saturated with molten copper under pressure.
M. Ho

RAIKHMAN, A.Z., inzh.

Controlling steam turbine disks. Energetik 5 no.9:17-19 S '57.

(MIRA 10:10)

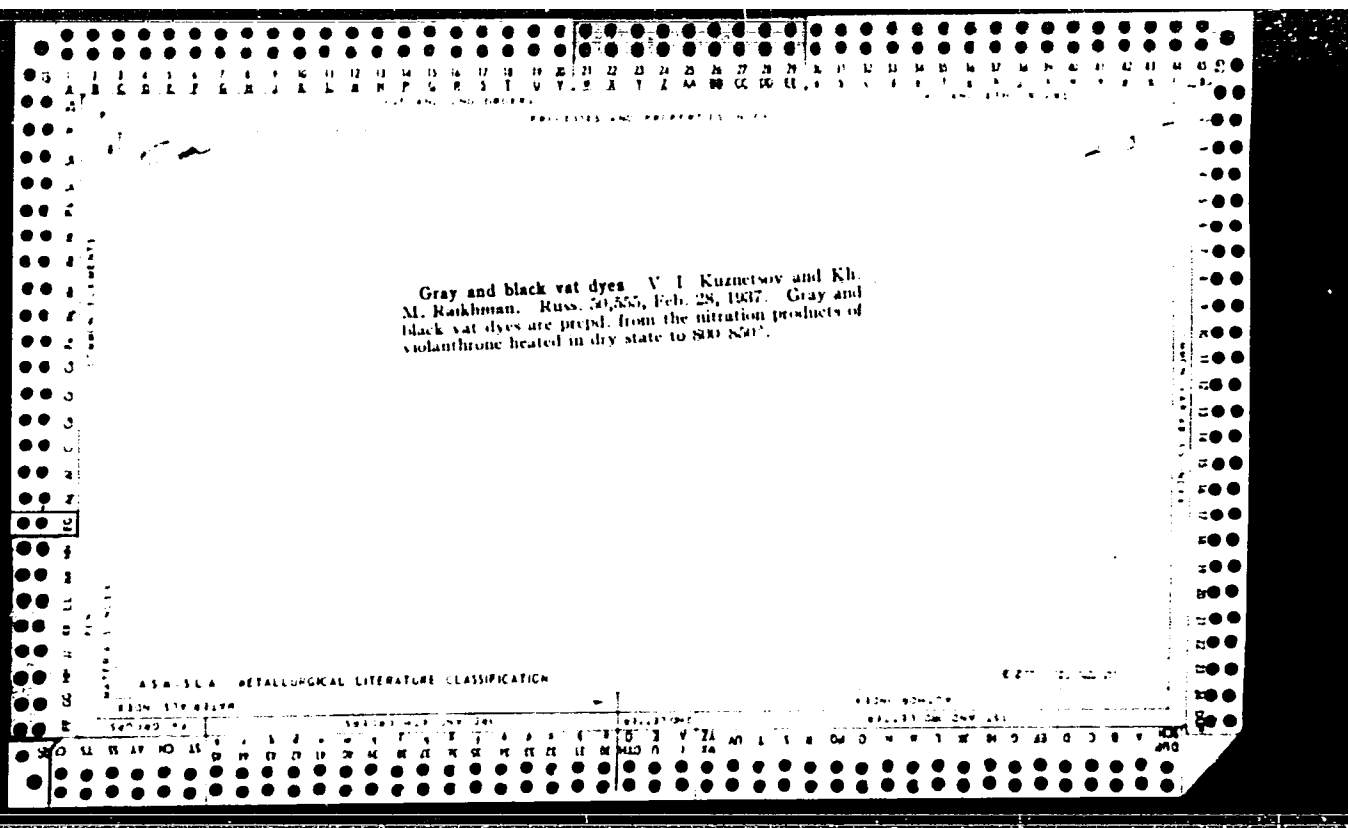
(Steam turbines)

The reaction of arylamines with amino and hydroxy derivatives of quinoline in the presence of bisulfite. I. M. Kogan and Kh. M. Ralkhman. *J. Applied Chem.* (U. S. S. R.) 12, 1393-8 (in French, 1398) (1939). -8. (4-Aminophenylamino)quinoline-5-sulfonic acid (I) (55% theory) was obtained by heating 8-aminoquinoline-5-sulfonic acid with $p\text{-C}_6\text{H}_4(\text{NH}_2)_2$ in bisulfite soln. at $109-10^\circ$ for 8 hrs. The same compd. was obtained by heating β -hydroxyquinoline-5-sulfonic acid with $p\text{-C}_6\text{H}_4(\text{NH}_2)_2$ in bisulfite soln. at the same temp. I can be diazotized and used in combination with the HO deriv. for the prepn. of dyes, but I itself cannot be coupled with diazonium compds. since it is oxidized by the diazonium compd. to quinone. The reaction of hydroxyquinoline with $p\text{-C}_6\text{H}_4(\text{NH}_2)_2$ proceeded in two stages: (1) addn. of SO_2Na to the C having the OH group and (2) reaction of the HO group with the NH_2 group of the diamine. The analogy between 6- and 8-hydroxyquinoline and α - and β -naphthols was also investigated. Heating of 6-hydroxyquinoline with p -aminophenol in the presence of NaHSO_3 soln. yielded 76% of 6-(p -hydroxyphenylamino)quinoline, m. $233.5-235^\circ$. Heating 8-hydroxyquinoline with the same phenol at the same temp. ($115-20^\circ$ for 27 hrs.) yielded 8-(p -hydroxyphenylamino)quinoline, m. $151-152.5^\circ$ (37%). The 2 compds. did not condense with diazo compds. A. A. Podgorny

A. A. Podgorny

ASME-51A METALLURGICAL LITERATURE CLASSIFICATION

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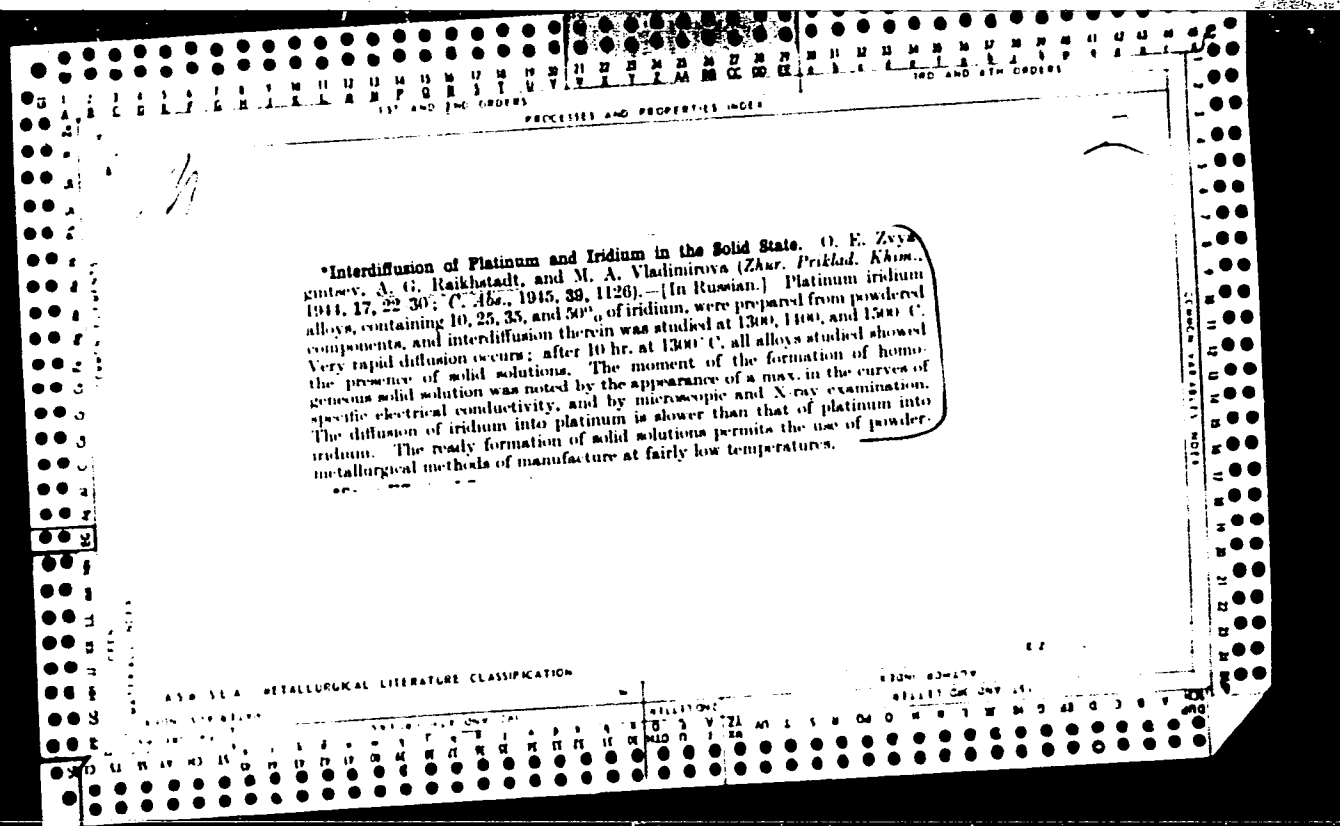


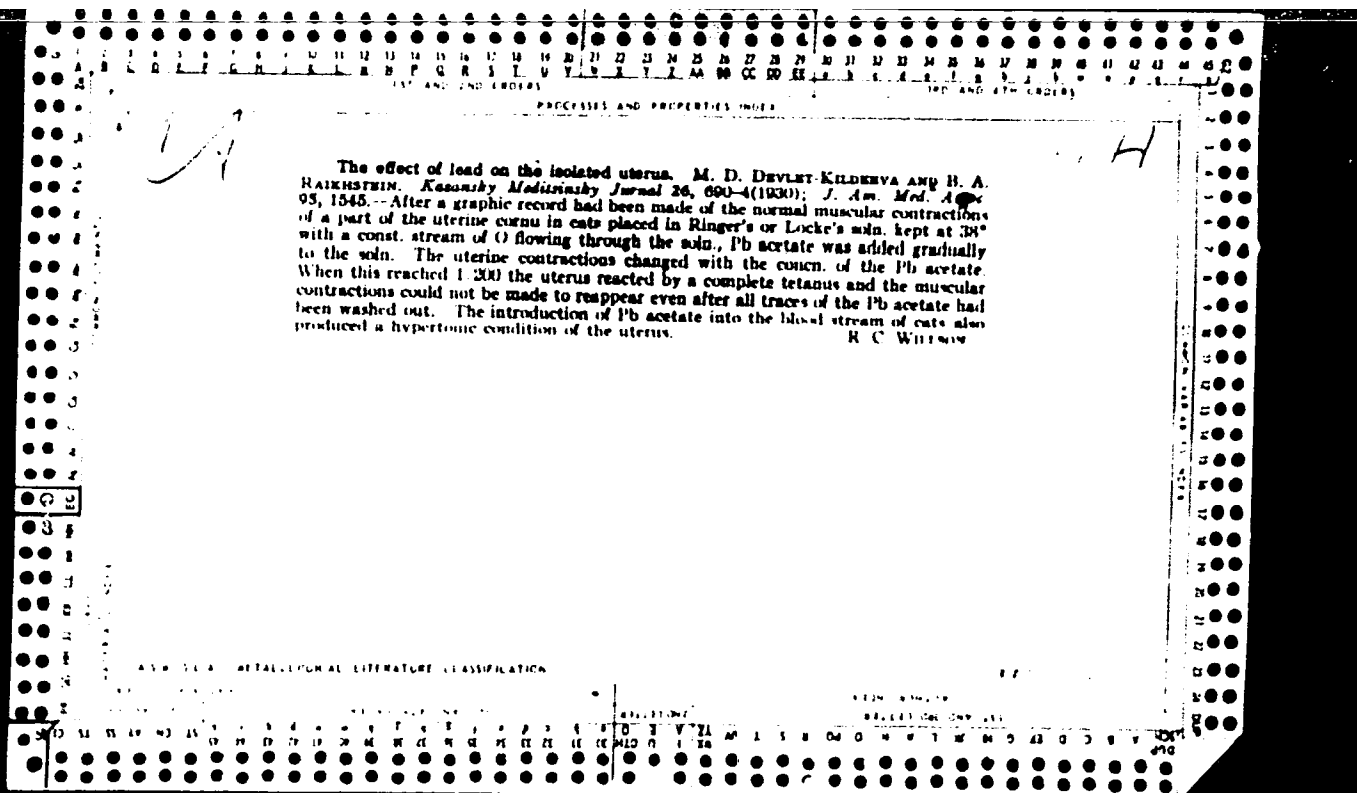
RAIKHRUD, A. Ya.

Quantitative regularities in the regulation of synthesis in the
virus cell system. Vop. virus. 8 no.3:325-329 My-Je'63.

(MIRA 16:10)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.
(VIRUS RESEARCH) CELL METABOLISM)





RAIKHSHEIN, S. I.

Pa-2T49

USSR/Physical Chemistry - Apparatus
Elasticity Measurements

Mar 1947

"An Apparatus for Determination of Dissociation
Pressure," S I Raikhshtein, and I A Kazarnovskiy,
4 pp

"Zhurn Fiz Khim" Vol XXI, No 3

Diagrams and operating data of subject equipment
for elasticity measurements in dissociation of
hard substances

2T49

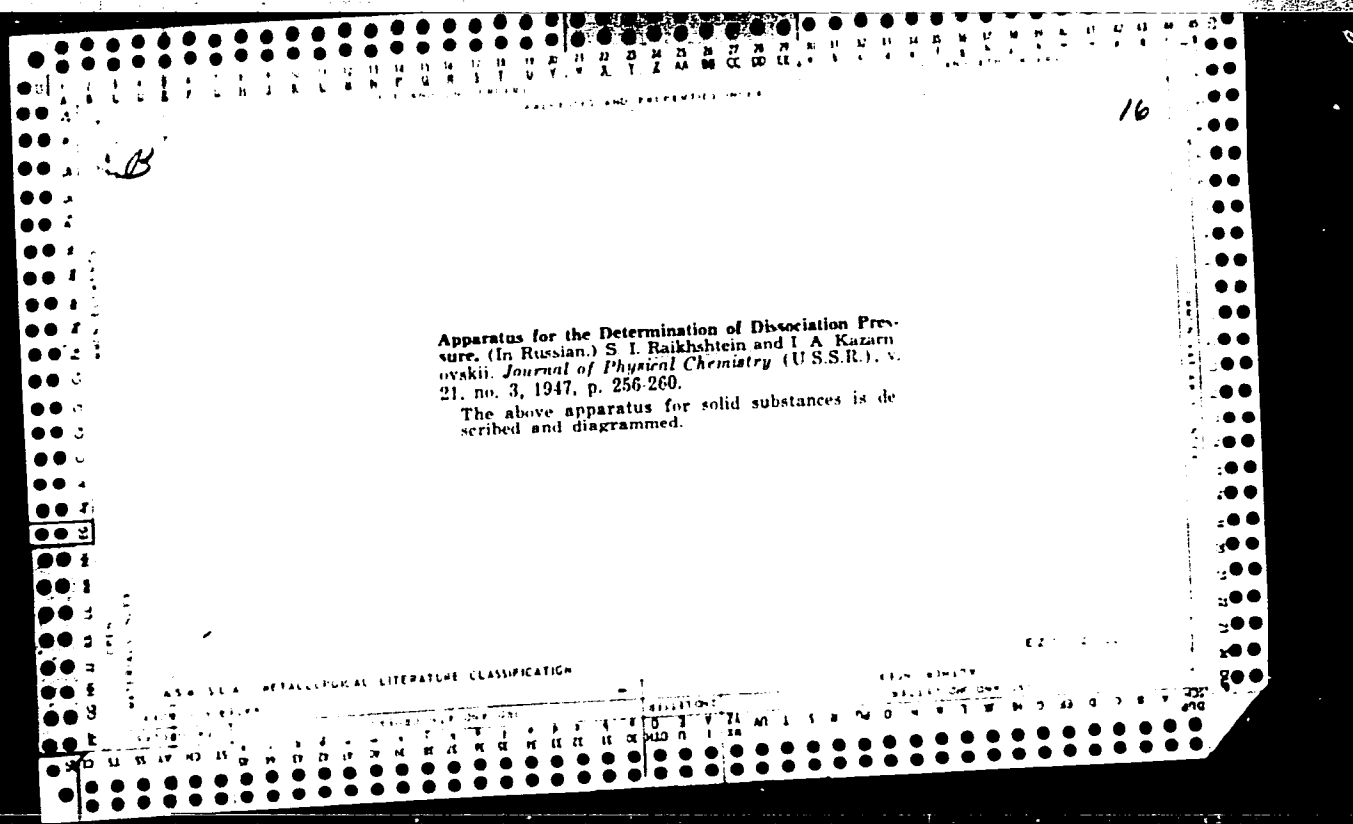
6

inorganic peroxides. XI. Higher oxides of potassium
 I. A. Kazarnovskii and S. I. Rakhshteln (Karpov Inst.
 Phys. Chem., Moscow). *J. Phys. Chem.* (U.S.S.R.) 24
 245-55 (1967) (in Russian); cf. *Chem. Abstr.* 33, 37139. The
 pressures above K_2O_2 (prepn. described) are 0.35, 1.45
 and 1.65 ± 0.1 mm. Hg at 300°, 300°, and 370°, resp.
 The pressure remains const. on removing O_2 until the
 compn. K_2O_4 is reached, when it drops to about 0.05 mm.
 Thus K_2O_4 does not exist. The dissociation is reversible,
 and K_2O_4 can be obtained by heating K_2O_2 (prepn. de-
 scribed) in O_2 . K_2O_2 and K_2O_4 have $d_4^{25} 2.138 \pm 0.001$ and
 2.140 ± 0.001 . From the mol. refraction of K_2O_2 , the
 fraction of the univalent anion O_2^{2-} is calcd. to be 0.6. The
 heat of formation of K_2O_2 is calcd. to be 117,000 cal. by
 using thermochem. data of Forcrand and the above pres-
 sure data.
 J. J. Bikerman

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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| 14-380 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|--------|---|---|---|---|---|---|---|---|---|-----|

Preliminary communications and discussion. Is there a
trioxide of potassium? S. I. Raikhdan and I. A.
Kazarmovskii. *J. Phys. Chem.* (U.S.S.R.), 11, 1131
(1958). The existence of K_2O_3 was investigated by meas-
uring its disson. point and that of its products of thermal
disintegration up to K_2O_2 . It was found that even the first
measurements of the thermal disintegration kinetics at
 300° and 0.1 mm. pressure pointed to the fact that K_2O_3 is
not an individual compd. but is a mixt. of K_2O_2 with K_2O .
The curve is smooth and no bend is found at the point
corresponding to K_2O_2 . W. R. Houn-



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PROCESSING AND PROPERTY INDEX

1

CA

Apparatus for determining dissociation pressures. S. I. Raikhshteyn and I. A. Kazarnovskii (Karpov Inst. Phys. Chem., Moscow). *J. Phys. Chem.* (U.S.S.R.) 21, 257-60(1947)(in Russian). - The sample (0.5 g.) is suspended on a quartz spiral the extension of which is 0.2 mm. per mg. The sample is heated in a vacuum, and the pressure attained detd. with a McLeod. Thus, simultaneous detn. of the degree of decomp. and the dissociation pressure is possible. The thermoregulator used is described. J. J. Bikerman

COMMON ELEMENTS

COMMON VARIANTS INDEX

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM STATION

TO STATION

COLLECTION

1ST AND 2ND COPIES

ELIKHTSALN, A.G.

Khimicheskie laboratorii po
issledovaniu uglei (Chemical laboratories for coal
research). Moskva, Ugletekhnizat, 1952. 168 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 1, April 1953

PAIKS, H. A.

Paiko, H. A. "The Kamchatka Seismic Expedition." Vestnik Akad. Nauk S.S.S.R., Leningrad, Extra Number, 1932, pp. 177-184.

BAIKO, N. N.

Baiko, N. N. "On the Possibility of Observing Mohorovicic Phase During the Caucasian Earthquakes." Izv. Seismologicheskogo Instituta, No. 18, 1980, : . 1-10.

IVANOV, P., inzh.; KERVANBASHILV, St., inzh.; ARSOV, IA., inzh.; RAIKOV, K., inzh.

A new foundry binder based on bitumen. Mesinostroene 13 no.4:
23-27 Ap '64.

RAIKOV, Raiko, inzh.

Distribution of power reserves in various power systems in
Bulgaria. Elektroenergiia 14 no.1:3-5 Ja '63.

RAIKOV, P

"Let us mechanize the fight against the grape *Peronosporales*", p 131
(КООПРАТИВНА ЗЕМЕДЕЛИЕ, Vol 6 #4, Apr. 1961, Bulgaria)

SO: Monthly List of ^{East European} ~~Russian~~ ^{Vol 6 #8} Accessions,/Library of Congress, August 1953, Uncl.

2 of A 11

KHISTOV (A.) & RALTOV (B. B.). Делствие на праховидните фунгициди върху излизаността на зеленчуковите семена при максимално напръскване.
[The effect of fungicidal dusts on the germination of vegetable seed when maximum dusting is employed.] - Reprinted from Семенпроизводство [Seed Production], iv, 1-2, 6 pp., 1945.

In comparative tests conducted over a period of ten years in Bulgaria, the highest germination rates of vegetable seeds treated with fungicidal dusts were as follows: red cabbage with porzol [*R.I.M.*, xvii, p. 450] 87-75 per cent., tillantin R. [*ibid.*, xxvi, p. 187] 85-75, control 79-5; white cabbage with copper carbonate [*ibid.*, xxvi, p. 324] 82-5, tillantin 78-75, control 60-5; dill [*Peucedanum graveolens*] with copper carbonate 76, ceresan 71-25, control 67-5; pepper with tillantin 98-25, control 95-75; radish with copper carbonate 84-25, tillantin 82-25, control 44-25; lettuce with porzol 88, copper carbonate 81-75, control 81-5; eggplant with tillantin 73-25, porzol 69-75, control 45. In one test granosan and ceresan completely controlled *Alternaria radicina* [*ibid.*, xxv, p. 378] on heavily infested carrot seed.

RAIKOV, G., inzh.; ZLATEV, Zl.

Installation of cables at the mine hoisting machine with friction plates. Min delo 16 no.11:24-27 '61.

1. "Mashiproekt"(for Raikov) 2. Gl. mekhanik na Durzhavno minno predpriatie "Burgazski medni mini"(for Zlatev)

(Mining machinery) (Hoisting machinery)

PAIKOV, G.
TECHNOLOGY

Novelties on the prespinning machines for worsted spinning. p. 19.

LEKA PROMISHLENOST. TEKSTIL. (Ministerstvo na lekata promishlenost) Sofia.

Vol. 7, no. 6, 1958.

SO: Monthly List of East European Accessions (EEAI) LC

Vol. 8, No. 3
Uncl. March 1959

RAIKOV, G.

Regulating the mechanisms of the flat carding machine.

P. 21, (Lika Promishlenost) Vol. 6, no. 2, 1957, Sofia, Bulgaria

SO: Monthly Index of East European Accessions (EEAI) Vol. 6, No. 11 November 1957

RADEV, R., inzh.; BALEV, V., inzh.; RAIKOV, Il., inzh.

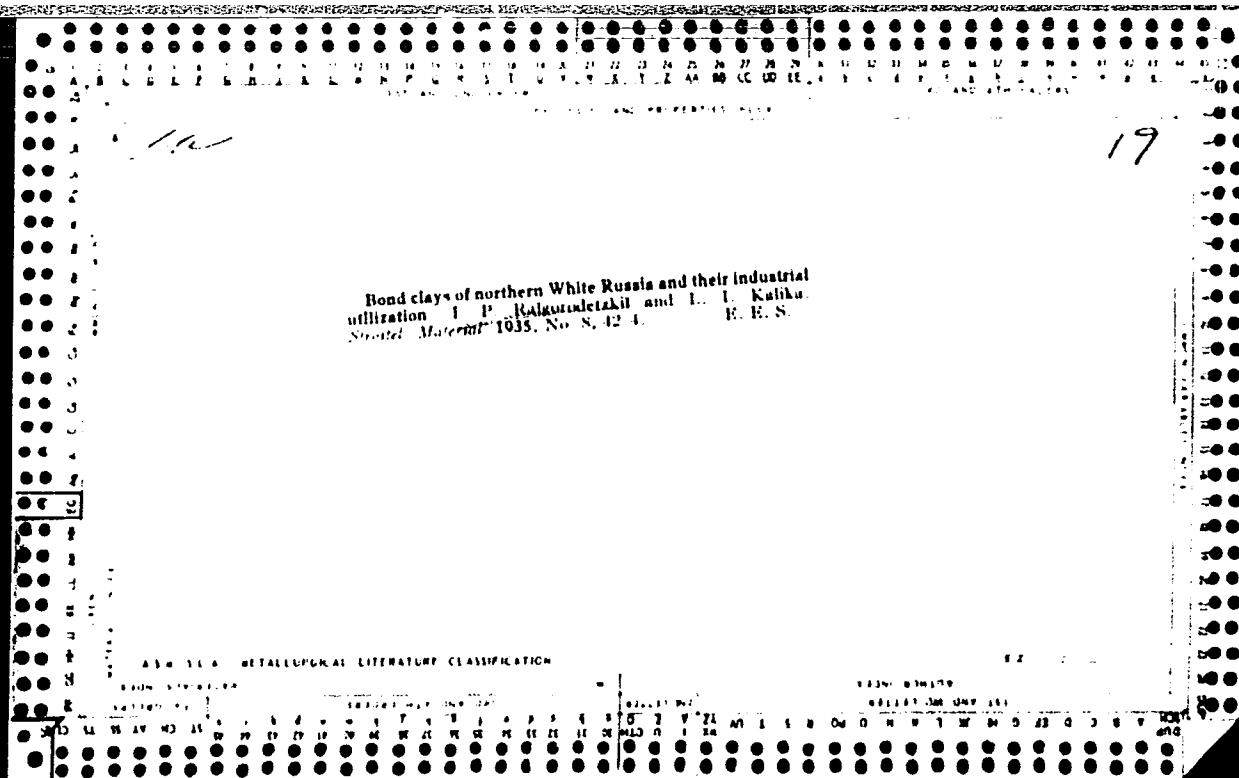
Determining the depth of dressing of the Chukurovo coals.
Min delo 17 no.11:12-14 '62.

1. Bulgarska akademiia na naukite.

RAIKOV, IVAN

Ot Buzludzha do vrukh Botev. Sofia, Profizdat, 1957. 76p. (From Buzludzha Mountain to Botev Peak. illus., fold map, bibl.)

SO: Monthly Index of East European Accessions (EEAI) Vol. 6, No.11 November 1957



11-3

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

BC

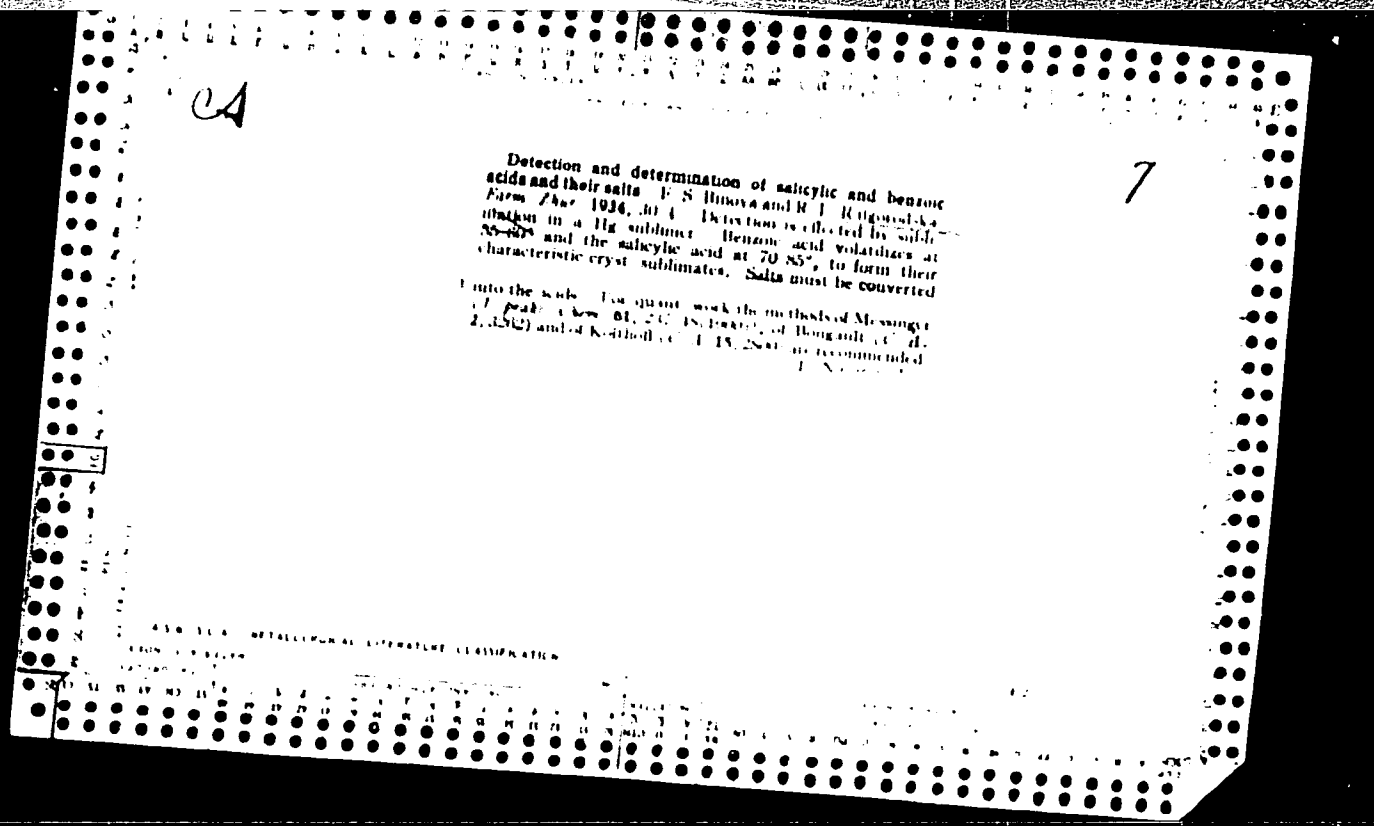
Determination of anionic acid. R. L. BARRON and R. D. BIRNBAUM (J. Am. Chem. Soc. 1964, 86, 137-140).—The acid is determined by treatment with I and titration of the solution by a bromometric method of Kolthoff's method. (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12) (13) (14) (15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28) (29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41) (42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55) (56) (57) (58) (59) (60) (61) (62) (63) (64) (65) (66) (67) (68) (69) (70) (71) (72) (73) (74) (75) (76) (77) (78) (79) (80) (81) (82) (83) (84) (85) (86) (87) (88) (89) (90) (91) (92) (93) (94) (95) (96) (97) (98) (99) (100)

ASB-11A METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

1ST AND 2ND ORDERS
PROCESSES AND PROPERTIES INDEX

| LIST AND INDEX ORDERS | | PROCESSES AND PROPERTIES INDEX | |
|--|--|--|--|
| <p>BC</p> <p>Determination of iodine in iodides. R. L. RAPOBOODNEKA and E. S. BINOVA (Farm. Zhur., 1935, No. 1, 23-25).—Free I is titrated with $\text{Na}_2\text{S}_2\text{O}_3$ and total I' with AgNO_3. CH. ABS. (c)</p> | | <p>12-1</p> | |
| <p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> | | | |
| <p>SECTION: STEEL</p> | | <p>SECTION: IRON</p> | |
| <p>GROUP: 1</p> | | <p>GROUP: 1</p> | |
| <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p> | | <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p> | |

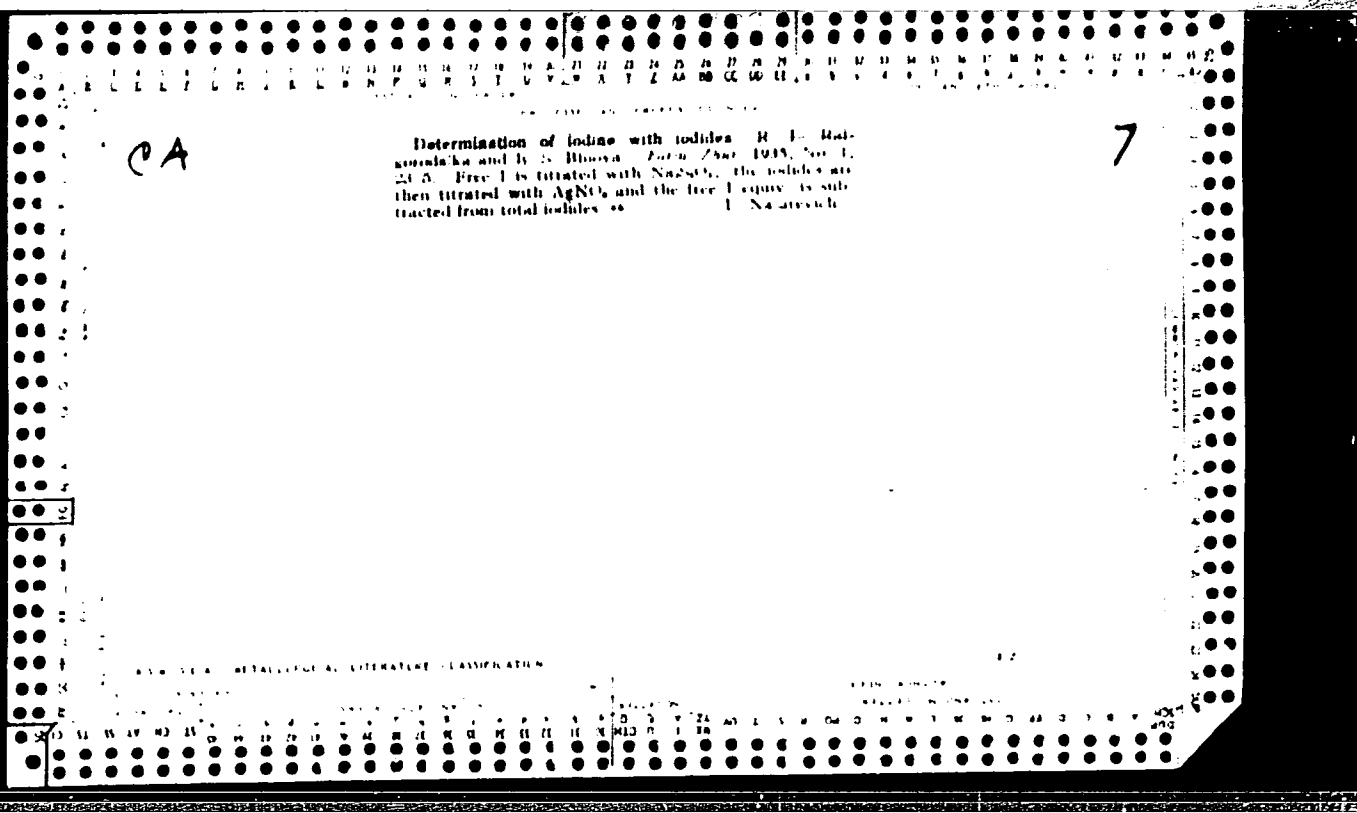


CA 17

Microchemical determination of alkaloids of *Ipecacuanha*. R. S. Binova and R. L. Raigorod'ska, *Trans. Ukrain. Inst. Exptl. Pharm.* 1, 151-3 (1934). The qual. reagent used was a mixt. of NH_4 molybdate and H_2SO_4 . This gives a green color with the alkaloid. For the detn., MgO , tragacanth and chloroform were used. One hundred mg. of powd. root can be analyzed by this method.

R. Levine

ASS-11A METALLURGICAL LITERATURE CLASSIFICATION



Acetylene derivatives. LXXXVI. Heterocyclic compounds. 7. Synthesis of 4-vinylethynyl-4-hydroxypiperidines by condensation of vinylacetylene with 4-piperidones. I. N. Nazarov, V. Ya. Ralgorodskaya, and V. A. Rudenko. *Izvest. Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 1949, No. 1, 68-75; cf. C.A. 43, 2009c. $\text{CH}_2\text{:CHC}\equiv\text{CH}$ (7 g.) and 14.1 g. 2,5-dimethyl-4-piperidone in 60 ml. Et_2O added to 10 g. powd. KOH in 30 ml. Et_2O with stirring at -5° , stirred 8 hrs. in the cold, and let stand overnight, gave 12.3 g. 2,5-dimethyl-4-vinylethynyl-4-hydroxypiperidine (I), b_p 135-6°. I hydrogenated with Pt catalyst in EtOH gave 2,5-dimethyl-4-butyl-4-hydroxypiperidine, needles, m. 106-7° (sublimed for purification). The latter, b_p 85-6° (liquid form), was obtained also in 7.3-g. yield from BuMgCl (30 g. BuCl) and 20 g. 2,5-dimethyl-4-piperidone, after heating in Et_2O , then in CaH_2 to 70° , prior to decompn. with 15% HCl and ice. $\text{CH}_2\text{:CHC}\equiv\text{CH}$ (6 g.) and 12.5 g. 2,5,6-trimethyl-4-piperidone, treated as above, gave 13.2 g. 2,5,6-trimethyl-4-vinylethynyl-4-hydroxypiperidine, b_p 140-3°, m. 123.5-4° (from CaH_2); 4-Bu analog, m. 135-6° (from CaH_2). 2,5-Dimethyl-6-ethyl-4-piperidone (11.3 g.) gave 10 g. 2,5-dimethyl-6-ethyl-4-vinylethynyl-4-hydroxypiperidine, b_p 143-5°; 4-Bu analog, b_p 142-4°, m_p 148-22, d₄²⁰ 0.9301. Similarly, 11.3 g. 2-methyl-4-ketodecaldehydiquinoline gave 9.8 g. 2-methyl-4-hydroxy-4-vinylethynyldecalhydroquinoline, b_p 140-1°; 4-Bu analog, m. 136-8° (from CaH_2). Analogously, 23 g. 1,2,5,6-tetramethyl-4-piperidone gave 14 g. 1,2,5,6-tetramethyl-4-vinylethynyl-4-hydroxypiperidine, b_p 122-25°, m_p 1.5138, d₄²⁰ 0.9858; 4-Bu analog, b_p 100-1°, m_p 1.4804, d₄²⁰ 0.9418 [also prepd. in 25% yield from BuMgCl and the corresponding piperidone; in this case, the product b_p 113-15°, crystal., and m. 58-9° (from petr. ether); apparently the Grignard syntheses yield isomers of the compds. obtained by the $\text{CH}_2\text{:CHC}\equiv\text{CH}$ condensation]. LXXXVII. Mechanism of dehydration and cyclization of dienyne. 17. Hydration and cyclization of 5-propyl-1,5-octadien-3-yne. I. N. Nazarov and I. I. Zaretskaya. *Ibid.* 178-83; cf. C.A. 43, 113f. $\text{CH}_2\text{:CHC}\equiv\text{CH}$ (159 g.) in 200 ml. dry Et_2O and 200 g. Pr_2CO added to 155 g. powd. KOH in 400 ml. Et_2O in the cold over 4 hrs. and stirred 6 hrs. in the cold and 4 hrs. at room temp. gave, after the usual aq. treatment, 251 g. (77%) dipropyl(vinylethynyl)carbinol, b_p 73-6°, m_p 1.4780. This (103 g.) and 100 g. 50% H_2SO_4 stirred 5 hrs. at 60-5° gave 81% 5-propyl-1,3-octadien-3-yne (I), b_p 65-7°, m_p 1.4900. I (6 g.) hydrogenated in AcOH with Pt oxide gave 5-propyloctane, b_p 174-6°, m_p 1.4190, d₄²⁰ 0.7447. I (77 g.), 300 g. 90% MeOH , 1.5 ml. H_2SO_4 , and 4 g. Hg sulfate stirred 1 hr. at 65°, then treated with a total of 10 g. Hg sulfate in 2 portions spaced 2.5 hrs. (total time 6 hrs.) gave, after concn. and neutralization, 87 g. 5-propyl-1,5-octadien-4-one (contaminated with some 5-propyl-2-methoxy-5-octen-4-one), b_p 90-8°; the impurity was removed by 1 hr. at 90-100° and 75 mm. with 0.5 g. $p\text{-MeC}_6\text{H}_4\text{SO}_3\text{H}$ (3 over)

... gave 70 g. pure dicene, b_p 103-6°, n_D²⁰ 1.4770, d₄²⁰ 0.8800, which does not undergo hydration under the above conditions. Hydrogenation over Pt oxide in EtOH gave 5-propyl-4-octanone, b_p 80-92°, b_p 201-4°, n_D²⁰ 1.4300, d₄²⁰ 0.8300, which yields not an oxime or semicarbazone. The structure of the dicene was shown by ozonization, which gave HCO₂H, and 45 g. H₂PO₄ (d. 1.77) after 2.5 hrs. at 60-5° gave 20 g. 1-propyl-2-ethyl-3-methyl-1-cyclopenten-5-one, b_p 103-5°, n_D²⁰ 1.4770, d₄²⁰ 0.9116; semicarbazone, m. 185-8° (from EtOH); 2,4-dinitrophenylhydrazones, m. 137-8°. The same product is obtained with undiminished yield on treatment with H₂PO₄ 11 hrs. at 10-14°. Hydrogenation over Pt oxide gave in poor yield the corresponding cyclopentenone deriv.; semicarbazone, m. 173-4°. Treatment at 60-5° for 6 hrs. gave the above cyclopentenone directly but in very poor yield (1 g.), the rest of the diene being unchanged. The structure of the cyclopentenone is shown by ozonization, which yields PrCO₂H and EtCO₂H, which yields the same products; the above keto acid yields a 2,4-dinitrophenylhydrazone, m. 115-16° of diene. 18. Hydration and cyclization of 5-methyl-1,5-tetradecadien-3-yne. *Ibid.* 184-9. Addn. of 344 g. Et₂O to 130 g. powd. KOH in 500 ml. Et₂O with stirring and cooling over 4 hrs., followed by 3 hrs. stirring in the treatment and neutralization, 322 g. mixed methylonyl- (vinylethynyl)carbinol and 5-methyl-1,5-tetradecadien-3-yne (I), b_p 103-30°, repeated fractionation gave 160 g. of the former, b_p 120-2°, b_p 131-3°, n_D²⁰ 1.4725, d₄²⁰ 0.8580, which on hydrogenation over Pt oxide in EtOH gave 5-methyl-5-tetradecanol, b_p 135-8°, n_D²⁰ 1.4440, d₄²⁰ 0.8300, while heating the carbinol (80 g.) with 80 g. 65% H₂SO₄ 4 hrs. to 65° gave 79% pure I, b_p 100-2°, n_D²⁰ 1.4830, d₄²⁰ 0.8183. Hydrogenation of I over Pt oxide in AcOH gave 5-methyltetradecane, b_p 125-7°, n_D²⁰ 1.4320, d₄²⁰ 0.7608. Stirring 54 g. I, 300 g. 90% MeOH, 1 ml. H₂SO₄, and 4 g. Hg sulfate 2 hrs. at 70°, followed by addn. of a total of 12 g. Hg sulfate in 2-g. portions at 2-hr. intervals, gave 43 g. 5-methyl-1,5-tetradecadien-4-one, b_p 129-33°, n_D²⁰ 1.4780, d₄²⁰ 0.8703; shorter reaction results in partial reaction; no MeO derivs. were detected. The diene on hydrogenation over Pt oxide in EtOH gave 5-methyl-4-tetradecanone, b_p 140-1°, n_D²⁰ 1.4400, d₄²⁰ 0.8278, and a small amt. of the cyclic deriv. described below. The diene (32 g.) and 50 g. H₂PO₄ (d. 1.77) after 3 hrs. at 60-5° gave 30 g. 1,3-dimethyl-2-oxyl-1-cyclopenten-5-one, b_p 134-5°, n_D²⁰ 1.4765, d₄²⁰ 0.8920; semicarbazone, m. 134-5°; 2,4-dinitrophenylhydrazone, m. 99-100° (from EtOH). This ketone is resistant to hydrogenation over a Pt catalyst. Oxidation by KMnO₄ gave AcOH, methylsuccinic acid, caprylic acid, and forms a semicarbazone, m. 124-5° (from 50% EtOH). LXXXIX. Transformations of 2-butyne-1,4-diol. I. N. Nazarov, L. N. Terekhova, and I. V. Torgov. *Ibid.* 287-92. MeOH (700 g.) and 40 ml. of a soln. of 15 g. H₂SO₄ and 20 g. Hg sulfate in 135 ml. H₂O were treated simultaneously with the rest of the above soln. and 300 g. (HOCH₂C₂)₂ in 500 ml. MeOH at 30° over 4 hrs., then 2 g. Hg sulfate was added and stirred 5 hrs. at 30°; neutralization gave 74% 1-methoxybutan-4-ol-3-one (I), b_p 85°, d₄²⁰ 1.0920, n_D²⁰ 1.4390; semicarbazone, m. 123-3.5° (from MeOH). To 40 g. MeOH and the catalyst added 20 g. HgO, 2 ml. MeOH, and 0.5 ml. BF₃·Et₂O was hrs. at 40°, and the mixt. heated 2 hrs. to 50°, and neutralized with MeONa, giving 18.5 g. I; a poorer yield is obtained with Hg sulfate in dry MeOH. Heating I (110 g.) and 0.9 g. p-MeC₆H₄SO₃H to 85° at 50 mm.

(Cont)

gave 2.5 g. 1-buten-4-ol-3-one, b_p 61-2°, n_D^{20} 1.4528, d_4^{20} 1.1113; 2,4-dinitrophenylhydrazones, m. 232-4° (from C_6H_6); the keto alc. polymerizes on standing to a colorless solid. I (90 g.), 0.7 g. pyrogallol, and 0.70 g. p -Me- $C_6H_4SO_3H$ heated to 50-85° at 50 mm. gave 40 g. distillate, which was immediately hydrogenated over Pt; fractionation of the combined products of several runs gave 0.5 g. butan-1-ol-2-one, b_p 64-5°, n_D^{20} 1.4200, d_4^{20} 1.028; osazone, m. 117°. XC. Mechanism of hydration and cyclization of dienes. 19. Hydration and cyclization of 5,6-diphenyl-1,5-hexadien-3-yne. I. N. Nazarov and I. L. Kotlyarevskii. *Ibid.* 293-8.—To the Grignard reagent of $CH_3CH=CH:CH$ (from 100 g. EtBr, 24 g. Mg, and 70 g. $CH_3CH=CH:CH$) in 300 ml. Et₂O was added with cooling 130 g. $PhCOCH_2Ph$ in Et₂O; stirring 2 hrs. at 35°, letting stand overnight, and treating with 10% HCl gave phenylbenzyl(phenylalkynyl)carbinol, b_p 162°, n_D^{20} 1.5912, d_4^{20} 1.009, which slowly polymerizes on standing; hydrogenation over Pt gave phenylbenzylbutylcarbinol, b_p 147-8°, n_D^{20} 1.5550, d_4^{20} 1.030; dehydration by $KHSO_4$ at 134-40° and 10 mm. gave 5,6-diphenyl-1,5-hexadien-3-yne (I), b_p 159-60°, n_D^{20} 1.6757, also obtained by stirring with 80% H_2SO_4 at 65-70°. Hydrogenation of the latter gave 5,6-diphenylhexane, b_p 154°, n_D^{20} 1.5379, d_4^{20} 0.956. I (115 g. crude). 400 ml. 90% MeOH, 10 ml. H_2SO_4 , and 30 g. Hg sulfate stirred 18 hrs. at 65-8°, cond., dild. with water, neutralized, and the C_6H_5 ext. of the mixt. rapidly distd. in small portions with p -

MeC_6H_4SO_3H in *vacuo* gave 87 g. 5,6-diphenyl-1,5-hexadien-4-one (II), b_p 179-9.5°, n_D^{20} 1.6320; semicarbazones could not be formed; on long standing the ketone solidifies and m. 70°; hydrogenation over Pt gave 5,6-diphenyl-4-hexanone, b_p 117-9°, n_D^{20} 1.5447, d_4^{20} 1.011; semicarbazone, m. 181.5° (from EtOH); ozonization gave BrOH and HCO_2H . II (4 g.) and 4 ml. H_3PO_4 (d. 1.82) after 15 min. at 70-80° gave 3.8 g. 1,2-diphenyl-3-methyl-1-cyclopenten-5-one, b_p 184°, m. 109° [semicarbazone, m. 229° (from EtOH)], also formed on heating with p -Me- $C_6H_4SO_3H$; hydrogenation over Pt gave 1,2-diphenyl-3-methyl-5-cyclopentanone, m. 97-8°; semicarbazone, m. 208-9° (from EtOH). Ozonization of the cyclopentenone gave BrOH and α -benzoylbutyric acid, b_p 155-62°, m. 60-5° (semicarbazone, m. 176-7°). XCI. Chemistry of divinyl ketones. 16. Addition of hydrogen cyanide to 2,2-dimethyldivinyl ketone. I. N. Nazarov and M. V. Kuvarzina. *Ibid.* 299-304.—To 22 g. $Me_2C=CHCOCH:CH_2$, 200 ml. EtOH, and 26 g. AcOH was added in 25 min. 28 g. KCN in 90 H_2O , the mixt. filtered after 4 hrs. at 35-7°, concd., and extd. with Et₂O to yield 21 g. 1-cyano-5-methyl-4-hexen-3-one (I), b_p 103-4°, n_D^{20} 1.4725, d_4^{20} 0.9785; semicarbazone, m. 134° (from dil. MeOH). Use of excess KCN failed to give further addn. Oxidation by $KMnO_4$ gave Me_2CO and succinic acid; hydrogenation

tion over Pt gave 1-cyano-5-methyl-3-hexanone, b.p. 131°; n_D^{20} 1.4315, d_4^{20} 0.9322 [semicarbazone, m. 139.5-40° (from 50% MeOH)]; hydrolysis of this satd. ketone by 30% H_2SO_4 6 hrs. at 70-8° gave 8-isopropylvaleric acid, m. 47° (from ligroin); semicarbazone, m. 147-8° (from 50% MeOH). Similar hydrolysis of the unsatd. ketone gave levulinic acid, sep'd. by distn., and a poor yield of $Me_3C:CHCOCH_2CH_2CO_2H$, m. 73-4° (from water) (semicarbazone, m. 150°); hydrogenation over Pt gave the above-described satd. acid, m. 47-8°. Use of more conc'd. acid gives only levulinic acid, due to cleavage of the unsatd. ketone. Addn. of 22 g. $CH_3:CHCOCH_2CCMe_2$ in 22 ml. EtOH to 9 g. KCN in 15 ml. water raised the temp. to 42°, which was maintained 40 min.; stirring 3 hrs. and letting stand overnight gave 4.2 g. $Me_3C:CHCOCH_2CH_2CO_2H$ and 10 g. l. Addn. of KCN to $MeOCH_2CH_2COCH_2:CHMe_2$ in EtOH in the presence of AcOH gave only tars; the use of large amts. of AcOH gave no reaction.

G. M. Kosolapoff

Ca

22

Heat-transfer factor of the radiant-heat surface in the tube-still furnace. E. P. Raikovodskii. *Azerbaidzhan skoe Neftyanoe Khozyaistvo* 1933, No. 6 7, 64 8. The calcms. of the above factor are presented. A A. B

ASB S.L.A. METALLURGICAL LITERATURE CLASSIFICATION

REGION: EUROPE
SUBREGION: 151

REGION: EUROPE
SUBREGION: 151

1. СИНДРОМЫ, А. П., Docent; НИТЛ, ЯА. Л., Docent; КИБУКИДЖА, Л. ЯА.
2. УСН (600)
3. Influenza
7. Pathological changes in the nervous system in grippe, Medyc. zhur., 22, no. 1, 1982.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

BC

B-2-2

Determination of arsenic in medicinal preparations. E. S. Buzova and E. L. Raimonova (Farm. Zhur., 1932, 12-22, 325-327).—The modification of Bak-Merz method is based on the coloration of $HgBr_2$ paper by AsH_3 . Ch. Abs.

ASH 54.4 METALLURGICAL LITERATURE CLASSIFICATION

N

17

Determination of arsenic in medicinal preparations. E. S. BINOVA AND R. L. KAIMORODSKA. *Farm. Zhur.* 11-12, 335-7(1932).—The method is a modification of Bek-Merz's method and is based on the coloration of HgBr₂ paper with evolved AsH₃. I. NASAREVICH

ASAC-SLA METALLURGICAL LITERATURE CLASSIFICATION

REGION: SOVIET UNION
SUBJECT: CHEMISTRY OF METALS
AUTHOR: BINOVA, E. S.; KAIMORODSKA, R. L.
TITLE: DETERMINATION OF ARSENIC IN MEDICINAL PREPARATIONS

1. [illegible]

2. [illegible] (see [illegible] 1-5/1, 6/1, 7/1, 8/1, 9/1, 10/1, 11/1, 12/1)

3. [illegible]

RAICU, P.; EREMI, P.

Comparative research on the biology of the blossoming of the double hybrid maize Warwick 401, its simple hybrids, and consanguineous lines. Studii cerc biol veget 13 no.2:243-260 '61.
(EEAI 10:11/12)

1. Comunicare prezentata de Al. Priadcencu, membru corespondent al Academiei R.P.R.

(Corn(Maize)) (Hybridization)

KIVILO, Evald; RAIG, H., otv. red.

[Elementary course in hygiene for workers of dairy farms] Sanitaarmiinimumi kursus piimakarjafarmide töötajaile. Tartu, Vabariiklik sanitaarhariduse maja, 1962. 61 p. (MIRA 16:12)

BAIK, A.Ye.

Calculation of certain volumes as presented in the ancient
Chinese treatise "Mathematics in nine books." Ist. mat.
issl. no.14:467-472 '61. (MIRA 16:10)

(Mathematics, Chinese)

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Raik, A. E. The tenth book of Euclid's "Elements."
Trudy Sem. MGU Istor. Mat. Istor. Mat. Issledov. no. 1,
343-384 (1948). (Russian)

Sm
X

Source: Mathematical Reviews.

Vol 11 No. 3

RAIK, A.Ye. (Saransk)

New reconstruction of certain problems from ancient Egyptian and
Babylonian texts. Ist.-mat.issl. no.11:171-182 '58.

(MIRA 12:1)

(Mathematics, Babylonian)

(Mathematics, Egyptian)

KELMAN, E

p 4

16(1)

PHASE I BOOK EXPLOITATION SOV/1366

Istoriko - matematicheskiye issledovaniya, vyp. 11 (Research in Mathematical History, Nr 11) Moscow, Fizmatgiz, 1958. 792 p. 3,000 copies printed.

Eds. (Title page): Rytkin, G.F. and Yushkevich, A.P.; Ed. (Inside book): Konoplyankin, A.A.; Tech. Ed.: Murashova, N. Ya.

PURPOSE: This book is intended for mathematicians and others interested in the history of mathematics, and may serve as the basis for a suitable university text on the history of mathematics, thereby filling the most serious gap in Soviet mathematical literature.

COVERAGE: This book contains reports made by members of the section on the history of mathematics at the Third All-Union Mathematical Congress which discussed problems of the history of mathematics and various articles on the significance of the history of mathematics

Card 1/8

Raik, A. Ye. (Saratov). New Reconstructions of Certain Problems from Ancient Egyptian and Babylonian Texts

171

RAIK, A.Ye.

Ivan Mikheevich Pervushin, the mathematician from the Urals. Ist.-
mat. issl. no.6:535-572 '53. (MLBA 7:9)
(Pervushin, Ivan Mikheevich, 1827-1900)

RAIK, A.Ye.

RAIK, A. "APPROVED FOR RELEASE: 03/20/2001", In CIA-RDP86-00513R001344020008-9
matem. issledovaniya, Issue 1, Moscow, 1946, p. 342-44.

SO: u-3042, 11, March 53, (Letopis 'nykh Statey, No. 9, 1949)

In memory of I.I.Raik. Vest.von.i derm. no.2:63 Mr-Ap '54. (MLRA 7:4)
(Raik, I.I., 7 -1953)

KHETAGUROV, G.I.; RAIK, I.O.

Results of four years of investigation on penacillin therapy of
syphilis. Sovet. med. no.5:21-23 May 1951. (CLML 20:9)

1. Of Leningrad Skin-Venereological Institute of the Ministry of
Public Health RSFSR (Director of Institute and Scientific Super-
visor of Syphilological Department--Prof. S.Ye. Gorbovitskiy).

SALTAIA, S.V.; RAIK, S.Ya.; DEGTYAREVA, V., red.

[Pectic substances and their importance in the national economy] Pektinovy veshchestva i ikh znachenie v narodnom khoziaistve. Kishinev, Kartia Moldoveniasko, 1963. 17 p.

(MIRA 17:12)

The mechanism of the catalytic transformations of polyethylene hydrocarbons. S. E. Raik. *J. Gen. Chem.* (U. S. S. R.) 11, 324-30 (1941).--Adjacent Carbons of the rings are adsorbed on 2 nearby active points on the catalyst surface. The interatomic distances of the Carbons and the active points, as well as the presence of strain in the rings, det. the exact point of union and the subsequent opening of the rings. Formation of branched-chain compds. is due to the position of adsorption of the ring. Isomerization and aromatization of the hydrocarbons go through intermediate free radicals. H. M. L.

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CA

THE DEHYDROCYCLIZATION OF SUBSTITUTED PENTANES AND OF *gem*-SUBSTITUTED HEXANES. A. A. BILANDIN AND S. E. RAIK. *Compt. rend. acad. sci. U.R.S.S.* 50, 101 (1957) (in English).—Three postulates are given in an explanation of the dehydrocyclization of substituted α -pentanes and *gem*-substituted α -hexanes to yield aromatic compounds and *gem*-substituted α -hexanes by way of a skeleton isomerization. (cf. C.A. 40, 1700) by way of a skeleton isomerization. These postulates, which occur simultaneously, are: (1) In such substituted pentanes and hexanes a 5-membered ring compd. is formed; (2) the 5-membered ring is isomerized into a hexahydrouromatic 6-membered ring in such a way that the α -C atom of the side chain enters into the neighboring C-C bond of the 5-membered ring; and (3) this entering of the new C takes place into those bonds of the 5-membered ring that are farthest from the newly formed bond of the 5-membered ring formed from the parent hydrocarbon. Thus, from 2,2,4-trimethylpentane, *p*-xylene is formed, whereas from 2,2-dimethylvalane, *m*-xylene is formed. Of the 9 cases investigated, the results are in quantitative agreement with the above postulates in 7 cases, with but 1 case being markedly divergent. Myron Q. Webb

ASB-56 A METALLURGICAL LITERATURE CLASSIFICATION

RAYK, S. Ye.

Mechanism of catalytic opening of rings. S. E. Rayk.
Problemy Kinetiki i Kataliza, Akad. Nauk S.S.S.R. 6, 61 (1949).
Geterogennyi Kataliz, 259-61 (1949).—Catalytic hydrogenation of cyclobutanes with side chains in the presence of Pt on an active C carrier, yielded open chain, branched hydrocarbons. Thus, the ring was broken preferentially in bonds remote from the point of attachment of the side chain. It is proposed that the catalyst attacks first one C atom, then the second neighboring C and causes stretching of the C—C bond. Considerations of steric hindrance and bond lengths indicate that the probability for a given C to become attached to the catalyst is related to the no. of H atoms attached to this C. The probability for the formation of the iso-compd. is 86%, since formation of the normal hydrocarbon would require that the tertiary C is attached before the ring opens. Similar considerations can be applied to the opening of pentamethylene ring; the yield of normal hydrocarbons from Me cyclopentene is 12% as compared to the predicted 11%; the actual yield of 2,4-dimethylpentene from 1,3-dimethylcyclopentane is 45%, while 50% is predicted. Several difficulties, however, are encountered in applying this mechanism to C₄ and C₅ rings, since it does not explain the greater difficulty to open a C₄ ring. The ability of the C atoms to rotate in C₄, which is absent in C₄, C₅, and C₆ rings, may serve as explanation.
 Andrew Dravnicka

RAIK, S. Ye.

Vskhatim: - "The extension of the theory of multipoles to the reaction of the dehydrocyclization of substituted pentanes and partial hexanes," Vestnik Mosk. un-ta, 1948, No. 12, p. 112-20, - Bibliog: 11 items

SC: U-4355, 14 August 53, (Letopis 'Zhurnal 'nykh Statey, No. 15, 1949.)

CA

Use of the statistical method for the determination of the results of some contact reactions. S. E. Raik (Moscow State Univ.). *Vestnik Moskov. Univ.* 6, No. 10, Ser. Fiz.-Mat. i Estestven. Nauk No. 6, 69-78(1961). — (1) The no. of events sufficient for the probability that one single event will be applicable, within a small stated uncertainty, to a large no. of events, is estd. with the aid of the principle of practical assurance. The problem is to det. the no. n of elementary acts of a given catalytic reaction necessary for the statistical probability to differ from the probability derived on the basis of the mol. structure, by a magnitude α not to exceed the error. For reactions where the products can be detd. to within 0.01%, α is of the order 10^{-4} . With the aid

of Laplace's functions, $n = (4.48/\alpha)^2 pq$, where p and $q = 1 - p$ are the elementary probabilities of the alternative outcomes of a ring-opening reaction. As an example, p and q correspond to: methylcyclobutane $\rightarrow$ pentane ($p = 0.14$); + 2-methylbutane ($q = 0.86$); methylcyclopentane $\rightarrow$ (hexane + 3-methylpentane) (0.33) + 2-methylpentane (0.67); 1,1-dimethylcyclopentane $\rightarrow$ 3,3-dimethylcyclopentane (0.25) + 2,2-dimethylpentane (0.75); 1,2-dimethylcyclopentane $\rightarrow$ 3-methylhexane (0.25) + 2,3-dimethylpentane (0.75); 1,3-dimethylcyclopentane $\rightarrow$ (3-methylhexane + 2-methylhexane) (0.60) + 2,4-dimethylpentane (0.50). In all these instances, n is of the order of 10^4 mols., which corresponds to $\sim 10^{-10}$ g. of substance undergoing reaction. Consequently, the application of *a priori* probabilities under the usual conditions of catalytic expts. is fully justified. (2) Probabilities of cyclization of hexanes are estd. on the assumption that the hexane is adsorbed by one C atom, and cyclization occurs if the hexane folds in such a way that the 6th C atom comes into close contact with the C atom adsorbed. On account of free rotation around C—C bonds, there is a definite finite probability P that this will happen. The probability that the 1st 3 C atoms lie in one plane is taken to be a certainty. The probabilities that the 4th and the 5th C atoms will take positions favorable to ring closing are equal, and are shown to be $1/2$ each, i.e. the probability that both take such positions is $1/4$. For the 6th C atom,

the probability is $1/n$, and hence the total $P = 1/n$. That is the probability that a mol. will possess a configuration favorable for the closing of a 6-membered ring at the moment of adsorption of one of its C atoms. The fraction $P = 1/n$, multiplied by the probability of adsorption of a suitable C atom, gives the probability p of cyclization. (3) The no. of contacts c between a mol. susceptible of cyclization, and the catalyst, which leaves a stated fraction β of the reactant uncyclized, can be expressed by $c' = \beta$, or by $c' = \gamma \leq \beta$, where c is now the smallest integer satisfying the inequality. These relations permit, with a known β and a prescribed β (or γ), the calcn. of c and hence, if an assumption is made with regard to the no. of active points g per unit amt. of catalyst, also the min. amt. of catalyst g necessary for the cyclization of a given amt. of hydrocarbon. As an example, if for catalysts of the type of $Al_2O_3 + 10\% ZnO$, or bauxite, $\sim 2 \times 10^{18}$ active points/g. catalyst, in order to cyclize 0.1 ml. hexane (4.83×10^{23} mols.) down to $\beta = 10^{-4}$, $c = 754.15$ contacts and, hence, 21430 g. catalyst is necessary. This amt. decreases if the prescribed β is made smaller; e.g., for $\beta = 10^{-1}$, $g = 2668$ g. The same dependence of the fraction reacted on the probability is expressed by the 2 formulas, $\gamma = \beta$ and $K_p = \log [1/(1 - \alpha)]$, where $\alpha = 1 - \beta$. The exptl. yields of cyclization, from data of Kazanskii and Plata (C.A. 33, 9294¹) on Pt, and of Hoog, Verbeus, and Zuiderweg (C.A. 33, 9293²) on Cr_2O_3 , can be represented equally well by either of these formulas. The factor detg. yields of aromatization is the probability of cyclization of the given hydrocarbon. N. Thon

MORDKOVICH, M.S.; RAIK, S.Ya.; ARASIMOVICH, V.V.

Losses of pectin substances in the production of tomato paste.
Kons. 1 ov. prom. 18 no.11:19-21 N '63. (MIRA 16:12)

1. Moldavskiy nauchno-issledovatel'skiy institut pishchevoy
promyshlennosti (for Mordkovich). 2. Institut fiziologii i
biokhimii rasteniy AN Moldavskoy SSR (for Raik, Arasimovich).

RAIK, S.Ye.; KAZANSKIY, B.A.

Production of ethyl ester of cyclobutane-1, 1 dicarboxylic acid. Vest.Mosk.
un. no.3:125-128 Mr '53. (MLRA 6:6)

1. Laboratoriya organicheskogo kataliza.

(Ethyl esters)

Raika, E.

The pathogenesis of urticarial pruritus. III. Quantitative
evaluation of the effects of various drugs on morphine-in-
duced pruritus. E. Raika, S. Korossy, and Marianne
Glozony (Stevens' Hosp., Budapest). *Dermatologica* 112,
81-107(1956)(in German)(English summary); cf. C.A. 50,
1178b.—Of 78 drugs, of various types, tested (3008 tests)
44 were found, in the majority of cases, to prevent the oc-
currence of exptl., morphine-induced, pruritus. In no case
was 100% inhibition obtained. Henry B. Hastie

Med

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RAIKH, I.Ya., inzhener; FAYNGERSH, Ya.D., inzhener.

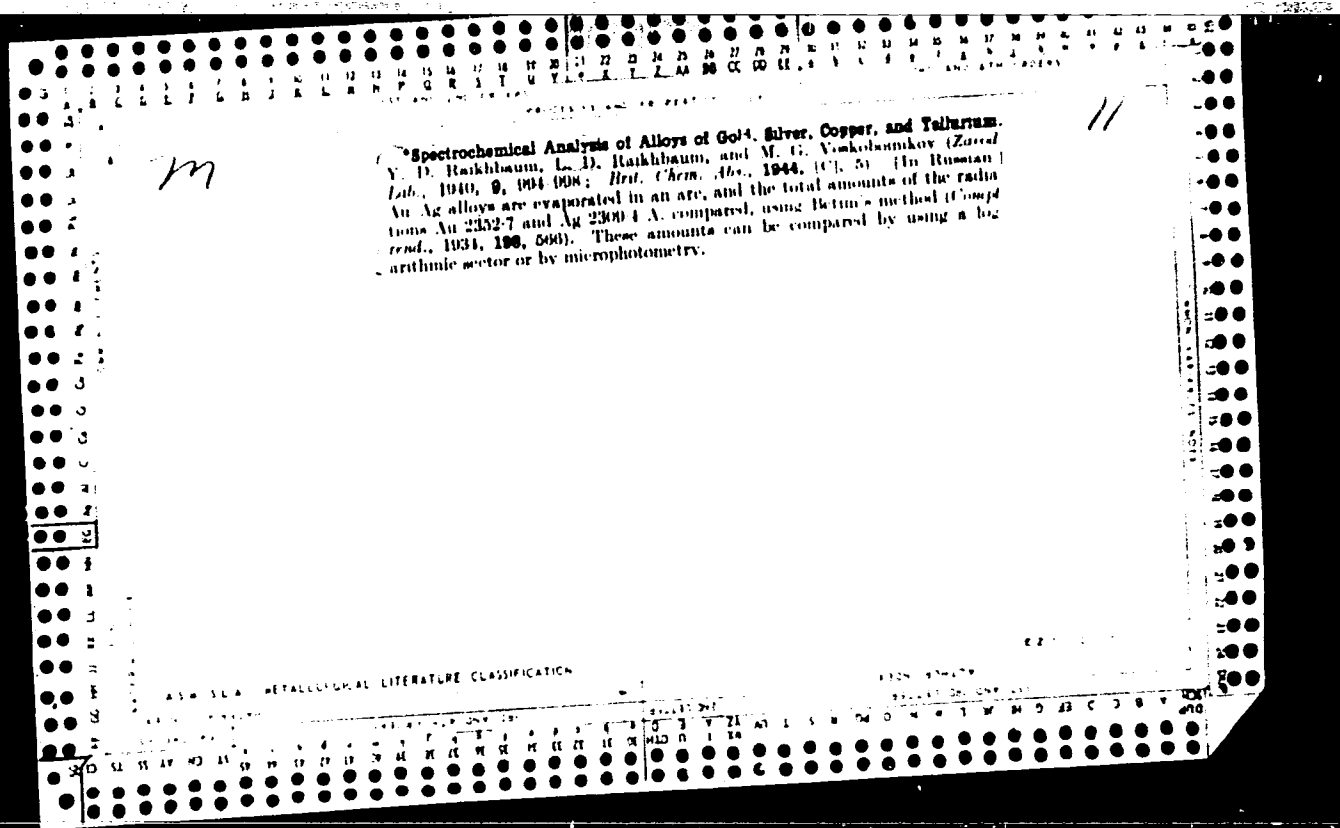
Mechanical method of making openings in masonry walls. Mekh.stroi.
11 no.11:28-29 N '54.

(MLRA 7:12)

(Masonry) (Drilling and boring)

*Quanta, but not detection in
application of photometry*

531
778.3 : 535.33
Photometry of Spectra of Variable Intensity and of Spectral Lines of Low Intensity.
J. D. RALPHBAUM. *Bull. Acad. Sci. U.R.S.S., Ser. Phys.*, 9, 765-768, 1945.—In
SLAVIN's "spectral energy" method—complete vaporization of the sample in
an electric arc—it is necessary to understand the laws governing the integration
by the photographic plate of the varying energy of emission. An account is
given of the results of experiments in the photometry of continuous spectra
from an incandescent lamp with voltage stabilizer when the intensity was subject
to continuous change produced by the opening and closing of the slit of the
spectrograph by means of a constant speed motor. *Brit. Abs. C.*



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PROCESSES AND PROPERTIES INDEX

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SA

Spectral analysis of alloys of gold, silver, copper and tellurium. Ya. D. Raikhsbaum, L. D. Raikhsbaum and M. G. Voskresnikoy. *Zarodkovaya Lab.* 9, 1941 8(1040). Exptl. details for the spectral detn. of Ag, Cu and Te in Au nuggets of 3-5 mg. B. Z. Kamich

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Spectrochemical Analysis of Alloys of Gold, Silver, Copper, and Tellurium.
 Y. D. Raikhbaum, L. D. Raikhbaum, and M. G. Voskresenskiy (Zavod
 Lab., 1940, 9, 1951-1958; *Russ. Chem. Abs.*, 1944, 10, 5). (In Russian.)
 Au-Ag alloys are evaporated in an arc, and the total amounts of the radia-
 tions Au 2352.7 and Ag 2300.4 Å. compared, using Batin's method (*Compt
 rend.*, 1934, 198, 549). These amounts can be compared by using a log
 arithmic sector or by microphotometry.

ASA 35.4 METALLURGICAL LITERATURE CLASSIFICATION

7

2A

Spectral analysis of alloys of gold, silver, copper and tellurium. V. D. Raikhsaun, L. D. Raikhsaun and M. G. Voskresnikov. *Zavodskaya Lab.* 9, 1991 S(1991). Exptl. details for the spectral detn. of Ag, Cu and Te in Au nuggets of 3-5 mg. R. Z. Kamich

ASACSLA METALLURGICAL LITERATURE CLASSIFICATION

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7

Determination of tungsten in minerals by the comparison of spectral energies. Ya. D. Raikhbaum. *Zavodskaya Lab.* 8, 601-5(1939).—W was detd. from the relative values of the spectral energies corresponding to 2 spectral lines of different elements. Co was added to the soln. in const. concn. and the selected pairs of lines were photometered to det. the relative values of the energies emitted by W and Co during complete vaporization in an arc of d. c. The nature of the chem. bond of W had no effect on the results. The varying thermal stabilities of the different W compds. govern only the rate of vaporization of the W atoms. Vaporization of W and Co is hindered by presence of large amts. of NaCl but it becomes more intensive as the temp. of the arc rises and the NaCl is vaporized. B. Z. Kamich

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

24

7

Local spectral analysis of Au surfaces. Ya. D. Rafkhauim. *Zavodskaya Lab.* 10, 168-70(1941); *Chem. Zentr.* 1943, II, 1118; cf. *C.A.* 37, 2297. -Local spectral analysis offers a means of supplementing the mineralogical and quant. spectral analysis of Au ores. It is possible to det. the qual. compn. of films of Au plate. Only with samples of less than 0.5 mg. were unsatisfactory results obtained. In these cases the samples were dissolved in acid and the solns. analyzed. M. G. Minne

ASAC 124 METALLURGICAL LITERATURE CLASSIFICATION

7-A

Intensifying & Densitometry

187
771.534.56
Photographic Action of Light of Variable Intensity. YA. D. RAKHINAUM. *J. Tech. Phys. U.S.S.R.*, 15, 485-8, 1945.--Photographic plates are illuminated with light of a gradually increasing or gradually decreasing intensity. The optical density of the image at a constant exposure is, for an increasing intensity, smaller than for a decreasing one and greater than for a constant intensity and variable time. When the rate of variation of light intensity rises, density rises also. These results must be borne in mind when using density in spectrographic analysis.
Brit. J. Phot. Abs.

F-A

*Operational Light-Induced
M. L. L. and P. M. L.*

1145

77.021.1 : 544.62

Spectrographic Determination of Silver in Photographic Emulsions. YA. D. RAIKHBAUM and YA. M. DYMSHITS. *Izvest. Akad. Nauk. S.S.S.R., Ser. Fiz.*, 1948, 12, 477-480.—Samples of the order of 0.04-0.1 sq. cm. of the emulsion are calcined and thoroughly mixed with a known amount (100-200 mg.) of a mixture of 25 mg. of anhydrous sodium sulphate, 25 mg. of anhydrous potassium sulphate, 50 mg. of graphite and 0.05 per cent of tin as standard. The determination is done in an a.c. arc under 10 amp., by the line pair Ag. 3280.68-Sn 3262.33A. The log calibration curve is rectilinear between 0.0002 and 0.02 per cent silver. The probable error of a single determination is 8.4 per cent. The method was used to determine for various types of emulsions the photometric constants and the mean mass of the developed grains.

Chem. Abs.

5

Photographic action of light of variable intensity - V.A.
D. Ralkhaun. *J. Tech. Phys.* U.S.S.R., 15, 185 S
(1957). Photographic plates are illuminated with light of
a gradually increasing or gradually decreasing intensity.
The optical density of the image at a const. exposure is for an
increasing intensity smaller than for a decreasing one and
greater than for a const. intensity and variable time.
When the rate of variation of light intensity rises, it rises
as well. These results must be borne in mind when it is
used for spectrographic analysis. I. J. Bekerian

Quantitative Spectral Analysis of Tin, Lead, and Bismuth Alloys. Ya. I. Aikhshteyn (*Zavod. Lab.*, 1939, 8, 1101-1105; *Chem. Zvest.*, 1942, 113, (11), 1042; *C. A. B.*, 1943, 37, 5332).—[In Russian.] The mathematical basis of spectral analysis is explained and various curves are given which were obtained by experiments with the Huger spectrograph. Results accurate to within about 1% were obtained even with high concentrations of Sn, Pb, and Bi.

A 50.314 METALLURGICAL LITERATURE CLASSIFICATION

CIA-RDP86-00513R001344020008-9"

Spectrographic determination of silver in photographic emulsions. Ya. D. Kalkhsaum and Ya. M. Dymshits. *Izv. Akad. Nauk S.S.S.R., Ser. Fiz.* 12, 677 (1948).
 Samples of the order of 0.01-0.1 sq. cm. of the emulsion are calcined and thoroughly mixed with a known amt. (100-200 mg.) of a mixt. of Na_2SO_4 , 25, K_2SO_4 , 25, graphite 50, and Sn 0.05%, as standard. The detn. is done in an a.c. arc under 10 amp., by the line pair Ag 3281.68, Sn 3282.34 Å. The log-log calibration curve is rectilinear between 0.0002 and 0.02% Ag. The probable error of a single detn. is 8.4%. The method was used to det. for various types of emulsions, the photometric const. and the mean mass of the developed grains. N. Thom.

RAIKHER, G. S.

Gruzooborot transporta v novoi piatiletke. [Freight turnover in the new five-year plan] (Zhel-dor. transport, 1946, no. 2-3 p. 33-41). "Additional details on freight traffic by region and commodity. Supplements Kovalev's pamphlet.

DLC: HE7.Z5

Gruzovye perevozki. [The freight transport]. (In Levin, B.I. Osnovnye voprosy piatiletnego planavosstanovleniia i razvitiia zheleznodorozhnogo transporta. Moskva, 1947, p. 111-136).

DLC: HE3137.L4

Osvobodit' zheleznye dorogi ot korotkoprobezhnykh perevozok. [To free the railroads from short distance shipments. (Zhel-dor. transport, 1945, no. 10 11, p. 70-73).

DLC: HE7.Z5

Ratsionalizatsiia zheleznodorozhnykh perevozok v tret'em piatiletii. [Rationalization of railroad shipments in the third five-year plan] (Problemy ekonomiki, 1940, no. 2, p. 88-97

DLC: HB9.P75

Za bor'bu s neratsional'nymi korotkoprobezhnymi perevozkami. [Against inefficient short distance shipments] (Sots. transport, 1940, no. 3, p. 8-11) "1935 and 1938 data on proportion and amount of such shipments.

DLC: HE7.S6

SO: Soviet Transportation and Communication A Bibliography. Library of Congress Reference Department, Washington 1952, Unclassified

U.S. ...
... 1-1, #12-22(1949)

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10

Characteristics of α,β -unsaturated ketones. II. V. I. Kiselev and I. I. Ralkher. *J. Gen. Chem.* (U. S. S. R.) 13, 13 (1943) (English summary); cf. *C. A.* 35, 3038⁹. It was shown that the displacement of ketones by aldehydes from α,β -unsat. ketones is connected with the preliminary hydrolytic cleavage of the latter into its components. BaI_2 , treated with mesityl oxide in the presence of dil. NaOH , yielded small amounts of benzylidenacetone and benzylidenesityl oxide, the latter being isolated as the tetrahydrate, m. 118° (from RtOH). The reactions were conducted by prolonged standing at about 10°, with a longer period noticeably increasing the yield of benzylidenacetone. Me_2CO was shown to be inert to condensation on treatment with piperidine acetate on prolonged heating on a steam bath; the same result was obtained when Me_2CO was used. However, 25 g. BaI_2 , 30 g. Me_2CO , 5 g. piperidine and 5 g. AcOH yielded, after 20 hrs. heating, 71% benzylidenacetone, m. 41.6°, while similar reaction with mesityl oxide gave crude benzylidenesityl oxide b.p. 172-5°, identical as the tetrahydrate. Thus, piperidine acetate may be recommended for aldehyde-ketone condensations.

G. M. Kosolapoff

ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION

RAIKHER, M.E., professor; KAMINSKIY, I.N., inzhener; NIKOL'SKIY, V.S.,
redaktor; SUROVA, V.A., redaktor; ANDREYEV, G.G., tekhnicheskii
redaktor.

[Complex time study in coal mines and pits] Kompleksnyi khronometrazh
na ugol'nykh shakhtakh i kar'erakh. Moskva, Ugletekhizdat, 1954.
203 p. (MIRA 8:5)
(Time study)

RAIKHER, M.E.; KAMINSKIY, I.N.

[Complex timekeeping in coal mines and pits]. Kompleksnyi khrono-
metrazh na ugol'nykh shakhtakh i kar'erakh. Moskva, Ugletekhnizdat,
1954. 204 p. (MIRA 8:3D)

11

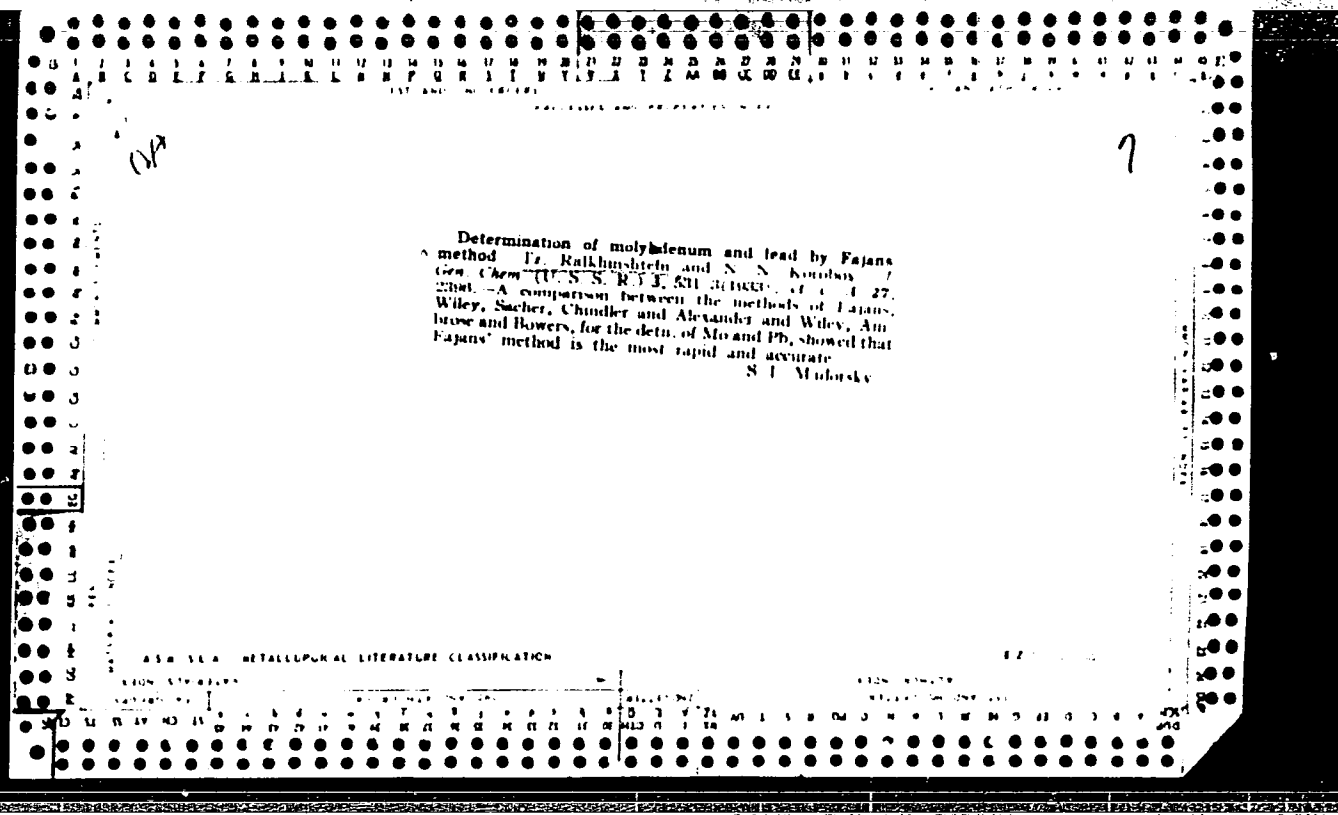
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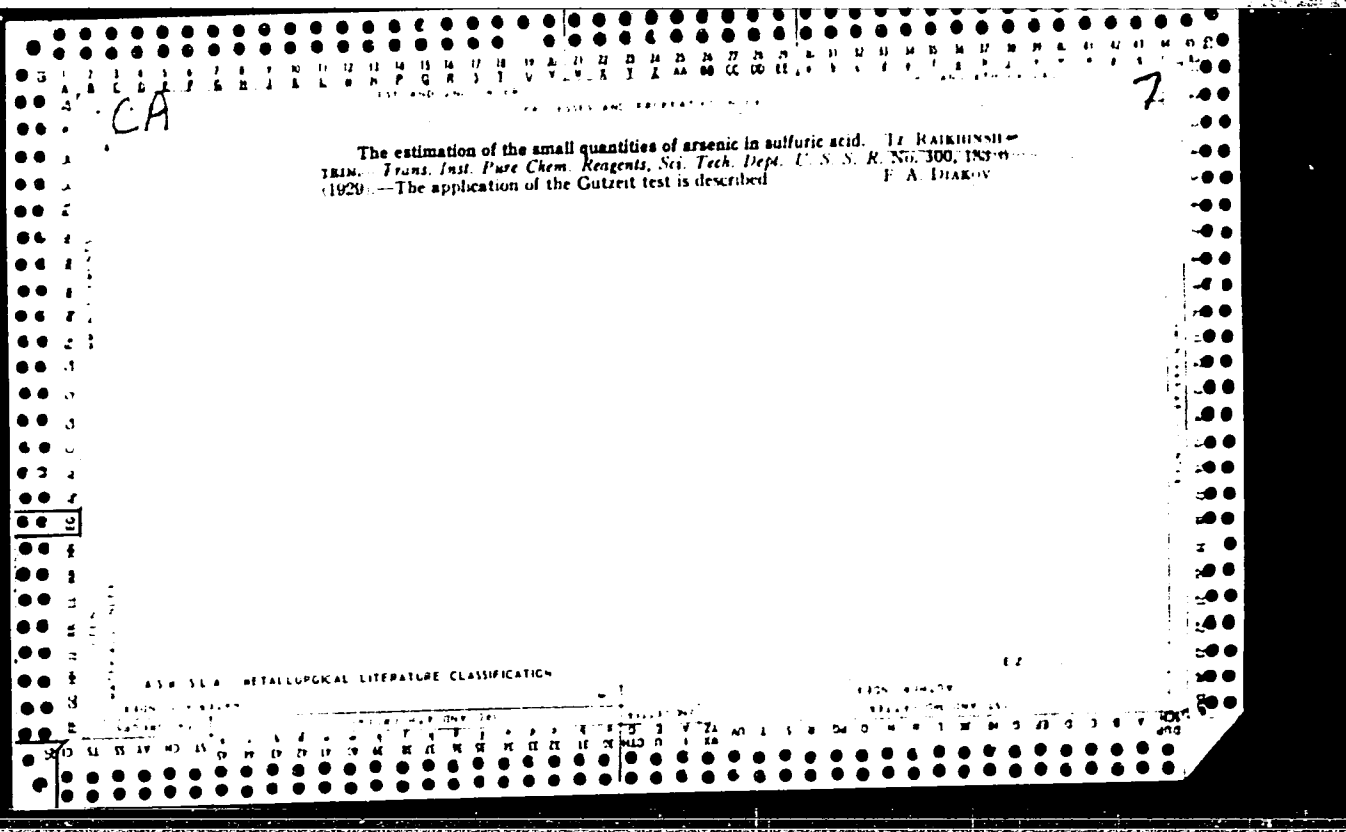
Determination of molybdenum and lead by Fajans method. Tr. Ralkhinshteln and N. N. Korobov. *J. Gen. Chem.* (U.S.S.R.) 3, 531 3(1933); cf. C. A. 27, 2393. —A comparison between the methods of Fajans, Wiley, Sacher, Chindler and Alexander and Wiley, Ambrose and Bowers, for the detn. of Mo and Pb, showed that Fajans' method is the most rapid and accurate.

S. I. Madorsky

ASA 3.1.1 METALLURGICAL LITERATURE CLASSIFICATION

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| <p>Determination of molybdenum and lead by the method of Fajans. I. T. RAI-KHISMETIN AND N. KOROBV. <i>J. Gen. Chem.</i> (U. S. S. R.) 2, 661-5 (1932) 77 PAPERS (C. A. 15, 2223; 17, 3633, etc.) developed a method for the volumetric detn. of Ag halides with the application of adsorption indicators, which forms the basis of the present method for the detn. of Pb and Mo. $(\text{AcO})_2\text{Pb}$ in H_2O gives with a little alizarin red (I) a violet soln., and with an excess a violet ppt. of the Pb salt of I; on addn. of $(\text{NH}_4)_2\text{MoO}_4$ to the soln. the ppt. of PbMoO_4 formed completely adsorbs, at an adequate concn. of I, the Pb salt of I with violet color until the equiv. amt. of $(\text{NH}_4)_2\text{MoO}_4$ is added. With the slightest excess of $(\text{NH}_4)_2\text{MoO}_4$ the anion MoO_4^{2-} displaces the anion of I, and the color of the ppt. is sharply changed to rose with orange tint. Any further addn. of $(\text{NH}_4)_2\text{MoO}_4$ does not affect the color of the ppt. In the expts 0.5 cc. 1% I was added to the soln. of $\text{Pb}(\text{NO}_3)_2$ or $\text{Pb}(\text{OAc})_2$ and the soln. was brought to a boil and titrated with a standard soln. of $(\text{NH}_4)_2\text{MoO}_4$. For the detn. of Mo, an excess of standard soln. of Pb salt was added to the soln. of a molybdate, the soln. was brought to a boil, 0.5 cc. 1% I was added, and the excess of Pb titrated back with a standard molybdate soln. The standard solns. of $\text{Pb}(\text{NO}_3)_2$ and $\text{Pb}(\text{OAc})_2$ were prepd. by adding aq. NH_3 to the ppt. of $\text{Pb}(\text{OH})_2$ just forming and dissolving the ppt. with AcOH. The solns. used were 0.1245 N, 0.1131 N and 0.0151 N with concns. of AcOH of 0.1-0.4 N. The vol. of all titrated solns. was 40 cc. The titer of Pb solns. was detd. as PbSO_4 and checked by electrolysis, and that of $(\text{NH}_4)_2\text{MoO}_4$ by evapg. to dryness and gently igniting in a Pt dish. Good results were obtained at different concns. of the titrated solns., but with the concns. of a molybdate below 0.01 N the amt. of I should not exceed 0.5 cc. 1% soln. The method can be used for the detn. of oxides of Pb by dissolving them in AcOH or HNO_3 and neutralizing with NH_3, in which case the concn. must be below 1 N for NH_4OAc or 2 N for NH_4NO_3. Titration of Pb and Mo by this method in the presence of the acetates and nitrates of heavy metals and other elements which form difficultly sol. salts with $(\text{NH}_4)_2\text{MoO}_4$ is impossible.</p> <p style="text-align: right;">CHAS. BLANC</p> | |
| <p>ASAC-51A METALLURGICAL LITERATURE CLASSIFICATION</p> | |

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PROCESSES AND PROPERTIES INDEX

Rapid Method for the Determination of Tungsten. Tr. Raikhshtein and N. Korobov (*Zhur. Priklad. Khimii* (*J. Applied Chem.*), 1935, 8, (1), 154-157; *C. Abstr.*, 1935, 29, 7219).—[In Russian.] The determination is carried out titrimetrically with Pb acetate in the presence of *Diamine Acet Scharlach* 6/18 indicator. Good results can be obtained with neutral or slightly acidic solutions. The concentration of HNO_3 should not exceed 0.005N and that of HCl 0.003N towards the end of titration. The determination cannot be made in the presence of NH_4Cl or Na acetate. —N. B. V.

COMMON ELEMENTS

OPEN

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

| SIGN: SIGNATURE | | SIGN: SIGNATURE | |
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| GROUP | ALPHABETIC | GROUP | ALPHABETIC |
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| 23 | W | 23 | W |
| 24 | X | 24 | X |
| 25 | Y | 25 | Y |
| 26 | Z | 26 | Z |

Oxidation-reduction indicators. 1. New indicators for
 the titration of tin and antimony by bromates. 1.
 G. Ralkhishvili. *J. Applied Chem. U.S.S.R.* 8,
 1120 (1955) German. 14, 56 (1965). Sn²⁺ is titrated in
 10% HCl soln. at pH 4.5 with benzopurpurin. Hg²⁺
 is titrated with benzopurpurin. Hg²⁺ can be titrated by
 bromate in 10% HCl soln. with benzopurpurin. H.
 M. Tene.

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| A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| <p>Potentiometric determination of sulfates. I. I. Zhukov and Ya. G. Raikhshtein. <i>J. Gen. Chem.</i> (U. S. S. R.) 4, 1012 (1934).—As the foundation for this detn. Kolthoff's method based on the use of Pb tetro-ferrocyanide as an indicator electrode was used. Portions of Na_2SO_4 soln. were treated with alc., some $\text{K}_4\text{Fe}(\text{CN})_6$, and some $\text{K}_3\text{Fe}(\text{CN})_6$, and titrated with $\text{Pb}(\text{NO}_3)_2$ soln. V. D. Karpenko</p> | |
| <p>ASA SLA METALLURGICAL LITERATURE CLASSIFICATION</p> | |
| <p>1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100</p> | |

ARISTOV, Grigoriy Andrianovich; ⁴²RAKHLEIN, I., redaktor; SHEVELEVA, A.,
redaktor; IG'NAT'YEVA, A., tekhnicheskiiy redaktor

[Infinite universe] Vselennaya beskonechna. [Moskva] Mo-
skovskii rabochii, 1955. 110 p. (MIRA 9:3)
(Cosmogony)

PARERAGO, Pavel Petrovich; RAKHILIN, I.Ye., redaktor; ZARMAKOV, Ye.A.,
tekhnicheskiiy redaktor

[In the world of stars] V mire zvezd. Moskva, Gos.izd-vo tekhniko-
teoret. lit-ry, 1957. 95 p. (Populiarnye lektsii po astronomii,
no.5)

(Astronomy)

(MLRA 10:10)

CA

Use of cationic soaps. A. I. Matetskii and F. I. Ralk-
hin. *Tekstil. Prom.* 1941, No. 5, 35-6; *Chem. Zentr.*
1943, I, No. 4, 463. —Cationic soaps were prepd. from
cetyl and octodecyl alcs. and mixts. of high-mol. alcs.
produced from cottonseed oil and seal oil. The following
comps. were used as bases: pyridine, pyridine bases
(b. p. 142-53°), trimethylamine, diethylaniline. Expts.
in the washing of wool and dyeing of cotton- and half-wool
material showed cationic soaps are valuable products, and
their use in the dyeing and finishing of fiber is desirable.

Sonya G. Machelson

Earmarking of sheep with a composition which is stable and which can be washed off. A. I. Matetskii and E. I. Raikhl'm. *Sherstnyye Delo* 1939, No. 1, 11-15. A suitable compn. for earmarking of sheep contains a mineral pigment, lanolin and benzene. Chalk can be added to increase the η and also a small amt. of wax. The marking is not washed off with hot or cold water and is completely removed by soap-alk. washing. A typical compn. contains lanolin 30, benzene 15, pulverized chalk 14, and pigment 3-4 parts by wt.

B. Z. Kamich

B. Z. Kamech

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

CA

22

Stabilization of mineral-oil emulsions. F. M. Raikhlin. *Tekstil. Prom.* 7, No. 2, 34-8 (1947). In an effort to eliminate olefin from wool-scouring emulsions, emulsion of solar oil and spindle oil, together with Kontakt (sulfonated naphthenic acid) and Nekal (butylnaphthalene-sulfonate) detergents were tested for stability. An emulsion of 20-25% spindle oil, 8% olein, 4% NH_3 and 68-93% H_2O was stable after 240 hrs. Substitution of solar oil in this formula reduced this time to 24 hrs. An emulsion (contg. 3.5% Nekal gave 240-hr. stability with 20-30% spindle oil and 77-97% H_2O). Substitution of solar oil decreased time of stability to 24 hrs. Increasing Nekal content to 7-10% reduced stability to 3 hrs. An emulsion consisting of 4% Kontakt, 20% spindle oil, 1% Na_2CO_3 , and 75% H_2O was recommended for use. M. S.

ASO SLA METALLURGICAL LITERATURE CLASSIFICATION

| PROCESSING AND PROPERTIES INDEX | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1ST AND 2ND ORDERS | | | | | | | | | | | | | 3RD AND 4TH ORDERS | | | | | | | | | | | | |
| <p>*Cast Hard Alloys (Volomit, Perdurum, Volramit, Relit). N. Zarubin and I. Raikhlin. (<i>Kokkie Metally (Kare Metals)</i>, 1934, (1), 31-42). [In Russian.]
 From a microscopical study of cast hard alloys with a tungsten carbide basis their porosity is proved to be greater than that of sintered alloys (Widia, Carboloy, Pobedit), of alloys produced by hot-pressing and of alloys of the Stellite type. The outside of castings is more porous, and consists chiefly of tungsten carbide (WC) with excess of carbon, whereas the central portion appears to consist of the two carbides WC and W_4C. Alloys cast into octagonal or ovoid moulds contain more carbon than those cast into cylindrical moulds. As the volume of the casting is increased, so the carbon content diminishes. Owing to casting difficulties, the alloy are often non-homogeneous in composition and properties, but good castings have a Rockwell C hardness of 60-65. -D. N. S.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>ASB-51A METALLURGICAL LITERATURE CLASSIFICATION</p> | | | | | | | | | | | | | | | | | | | | | | | | | |

RAIKHLIN, N.T. (Moskva)

Compensatory adaptation modifications in the lungs in pneumoconioses.
Arkhl.pat. 18 no.3:18-23 '56 (MIRA 11:10)

1. Iz kafedry patologicheskoy anatomii (zav. - chlen-korrespondent
AMN SSSR prof. A.I. Strukov) i Moskovskogo ordena Lenina meditsinskogo
instituta imeni I.M. Sechenova.
(PNEUMOCONIOSES, physiol.

compensatory adjustment modifications of lungs (Rus))

1ST APP 2ND ORDER

PROCESSED BY THE FBI

CH

7

Rapid method for determining tungsten — Iz. Raskin, Zhukov and N. Kozlov. *J. Applied Chem.* (U.S.S.R.) 8, 123 (1955). The detn. is carried out with Phosphate (phosphomolybdic) in the presence of "diamine" as indicator. Good results can be obtained with neutral or slightly acidic solutions. The concn. of HNO₃ should not exceed 0.005 N and that of HCl to 0.01 N toward the end of titration. Na and NH₄ nitrates are permissible in higher concns. The detn. cannot be made in the presence of NH₄Cl or CH₃COONH₄. This method may also be used for detg. Pb in W solns. — Nine references.

A. A. Boshchuk

ASH 51.4 METALLURGICAL LITERATURE CLASSIFICATION

12

| 1ST AND 2ND ORDERS | 3RD AND 4TH ORDERS | |
|--|--------------------|
| PROCESS AND PROPERTIES INDEX | |
| <p>Offset forms from blood albumin. I. A. Pakovich and V. S. Raikhlil. <i>Poligraf. Proizvodstvo</i> 1941, No. 1, 8-11; <i>Chem. Zentr.</i> 1942, II, 2000. — Light-colored purified blood albumin can be used as a substitute for egg albumin. A soln. of 8% blood albumin, 2% $(\text{NH}_4)_2\text{Cr}_2\text{O}_7$ (25% of the dry albumin) and 90% H_2O gives a light-sensitive layer from which 3-4 times more positives can be made than from egg albumin. The treatment is the same as for egg albumin. Sonya G. Machelson</p> | |
| <p>ASAC SLA METALLOGRAPHIC LITERATURE CLASSIFICATION</p> | |

ca

9

Cast hard alloys. N. Zarubin and Yu. Raikhin. *Rolkin Metal. 3*, No. 1, 31-32 (1964). Micrographs examn. of cast alloys consisting principally of W carbides shows that these are more porous than those prepared by sintering. The alloys absorb C while being melted and cast in graphite forms; this results in a higher C content in the outer layers. Some specimens had a coarse microstructure while others had a fine one. A hardness of 95 Rockwell "C" was obtained. H. W. R.

ASB-55-A METALLURGICAL LITERATURE CLASSIFICATION

EX-100

TOXICITY OF RARE METALS

Author: Z. I. Ed., Professor

Monograph on the toxicology of rare metals. Moscow, 1953. 335 p. 1500 copies printed.

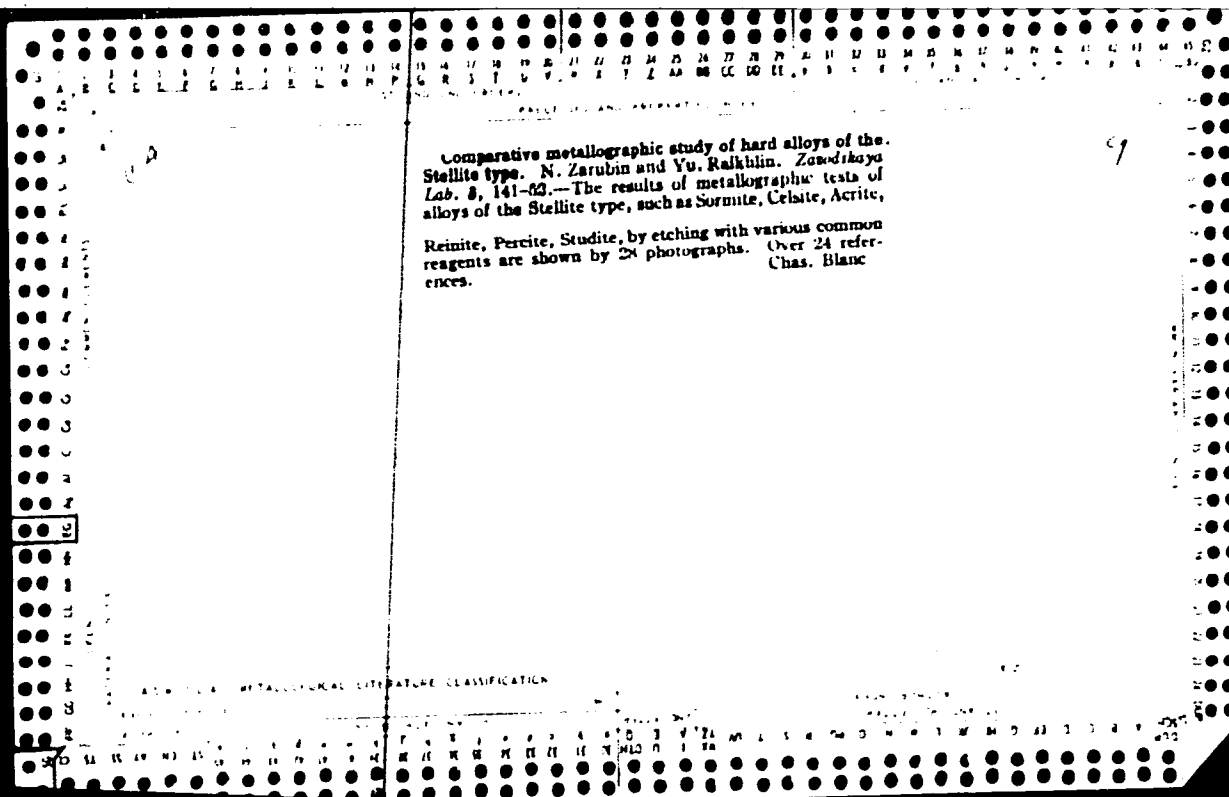
Editor: Khamidullin; Tech. Ed.: Yu. S. Bel'chikova.

The book provides information on the toxic effects of rare

metals on the basis of the experimental and clinical applications of rare metals. The clinical picture and the clinical picture of rare-metal poisoning is also given. There are 100 references.

III. Experimental Studies of the Effect on an Organism of Rare, Dispersed, and Other Metals Used in Industry and Their Compounds.

| | |
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| 10. Lead. O. Ya. Mogilevskaya | 151 |
| 11. Cadmium. M. S. Kaplun (Deceased) | 161 |
| 12. Barium compounds. G. I. Runyantsev | 176 |
| 13. Zinc and Zinc oxide. I. Ya. Mogilevskaya | 187 |
| 14. Rare earths. O. Ya. Mogilevskaya and N. I. Raikhlin | 195 |

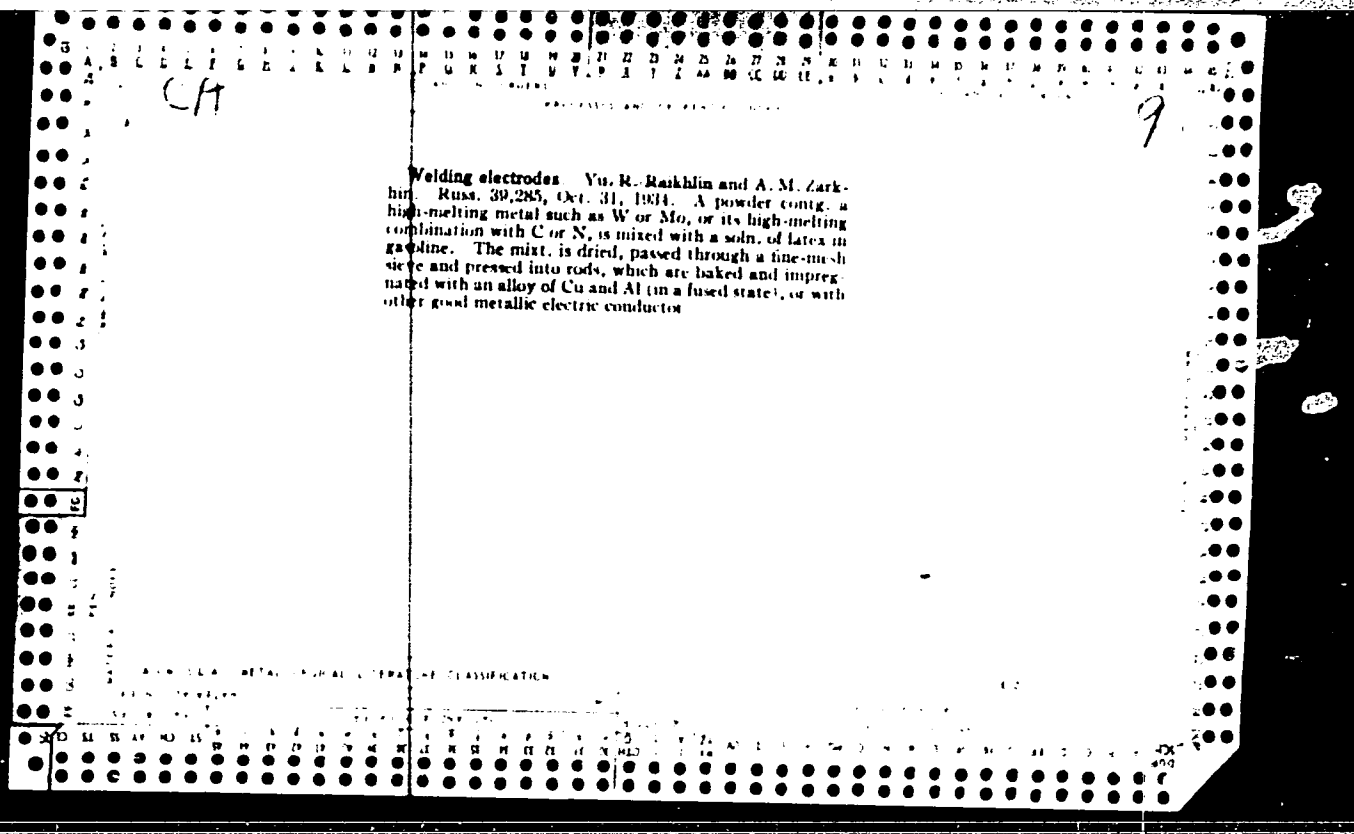


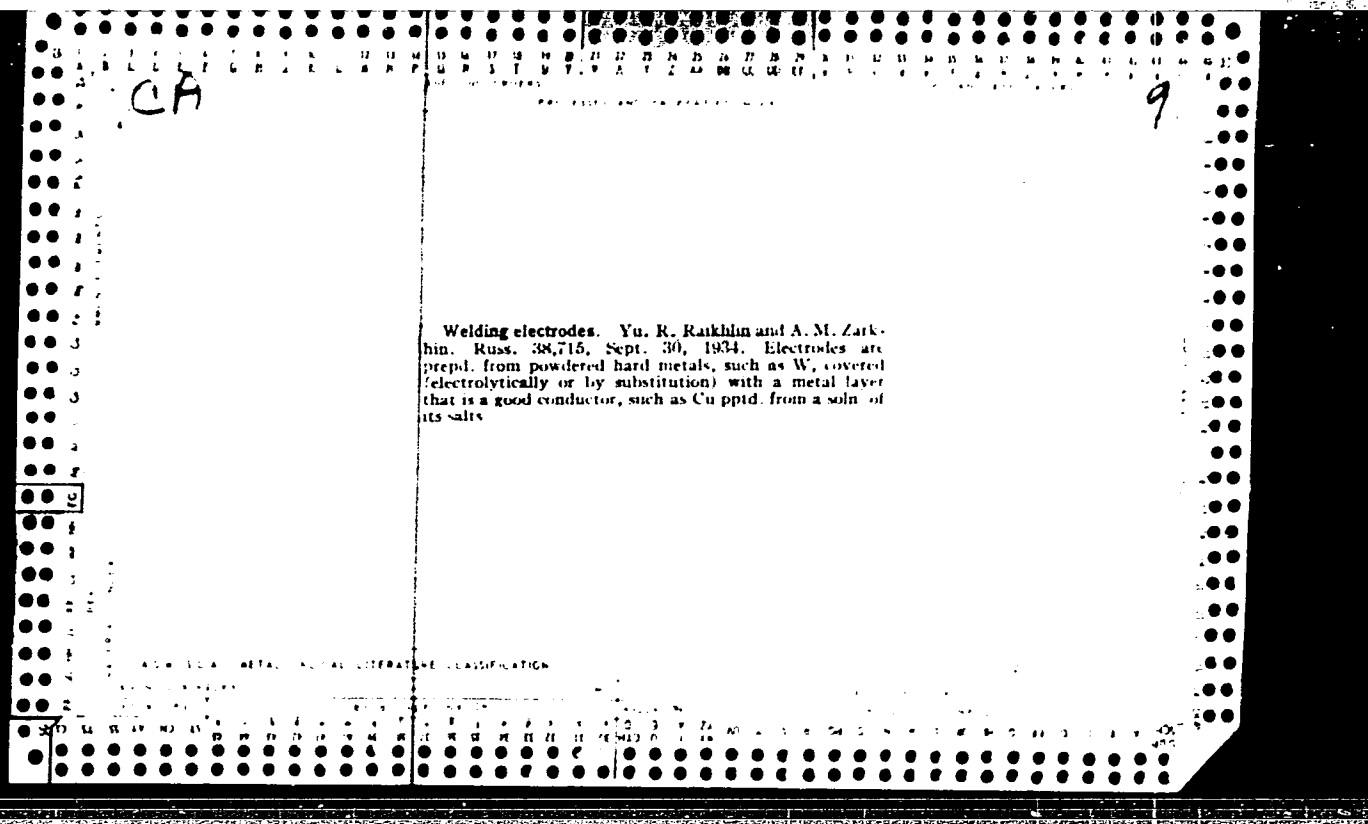
7

3

*Comparative Metallographic Study of Hard Alloys of the Stellite Type
[Sormite, Celcite, Acrite, Reinite, Studite]. N. Zarubin and Yu. Raikhlin.
(Zavodskaya Lab., 1934, 2, 141-152; C. Abs., 1935, 29, 08). — [In Russian.]
The results of metallographic tests of alloys of the Stellite type, such as Sormite,
Celcite, Acrite, Reinite, and Studite, by etching with various common reagents,
are shown by 23 photographs. A number of references is given.—S. G.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION





Method for making metaceramic products. Yu. K.
RAIKLIN AND A. M. ZAREKIN. Russ. 56,976, April 30,
1910. 40. 17. Such products are made from powdered
metals to which may be added diamond dust. The molded
powder is saturated with molten copper under pressure.
M. Ho

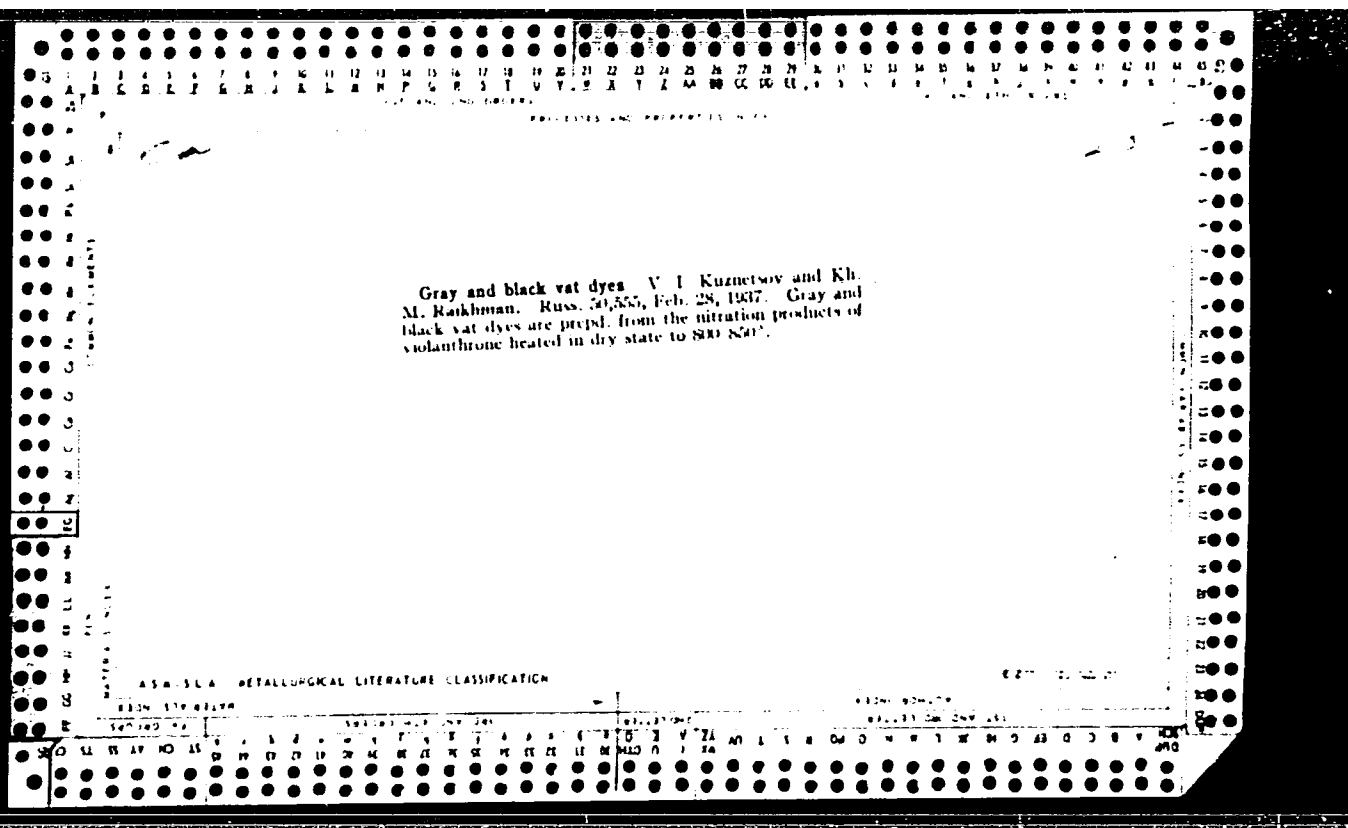
RAIKHMAN, A.Z., inzh.

Controlling steam turbine disks. Energetik 5 no.9:17-19 S '57.

(MIRA 10:10)

(Steam turbines)

The reaction of arylamines with amino and hydroxy derivatives of quinoline in the presence of bisulfite. I. M. Kogan and Kh. M. Ralkhman. *J. Applied Chem.* (U. S. S. R.) 12, 1393-8 (in French, 1398) (1939). -8. (4-Aminophenylamino)quinoline-5-sulfonic acid (I) (55% theory) was obtained by heating 8-aminoquinoline-5-sulfonic acid with $p\text{-C}_6\text{H}_4(\text{NH}_2)_2$ in bisulfite soln. at $109-10^\circ$ for 8 hrs. The same compd. was obtained by heating β -hydroxyquinoline-5-sulfonic acid with $p\text{-C}_6\text{H}_4(\text{NH}_2)_2$ in bisulfite soln. at the same temp. I can be diazotized and used in combination with the HO deriv. for the prepn. of dyes, but I itself cannot be coupled with diazonium compds. since it is oxidized by the diazonium compd. to quinone. The reaction of hydroxyquinoline with $p\text{-C}_6\text{H}_4(\text{NH}_2)_2$ proceeded in two stages: (1) addn. of SO_2Na to the C having the OH group and (2) reaction of the HO group with the NH_2 group of the diamine. The analogy between 6- and 8-hydroxyquinoline and α - and β -naphthols was also investigated. Heating of 6-hydroxyquinoline with p -aminophenol in the presence of NaHSO_3 soln. yielded 76% of 6-(p -hydroxyphenylamino)quinoline, m. 233.5-235°. Heating 8-hydroxyquinoline with the same phenol at the same temp. ($115-20^\circ$ for 27 hrs.) yielded 8-(p -hydroxyphenylamino)quinoline, m. 151-152.5° (37%). The 2 compds. did not condense with diazo compds. A. A. Podgorny



194, 71, 159-7

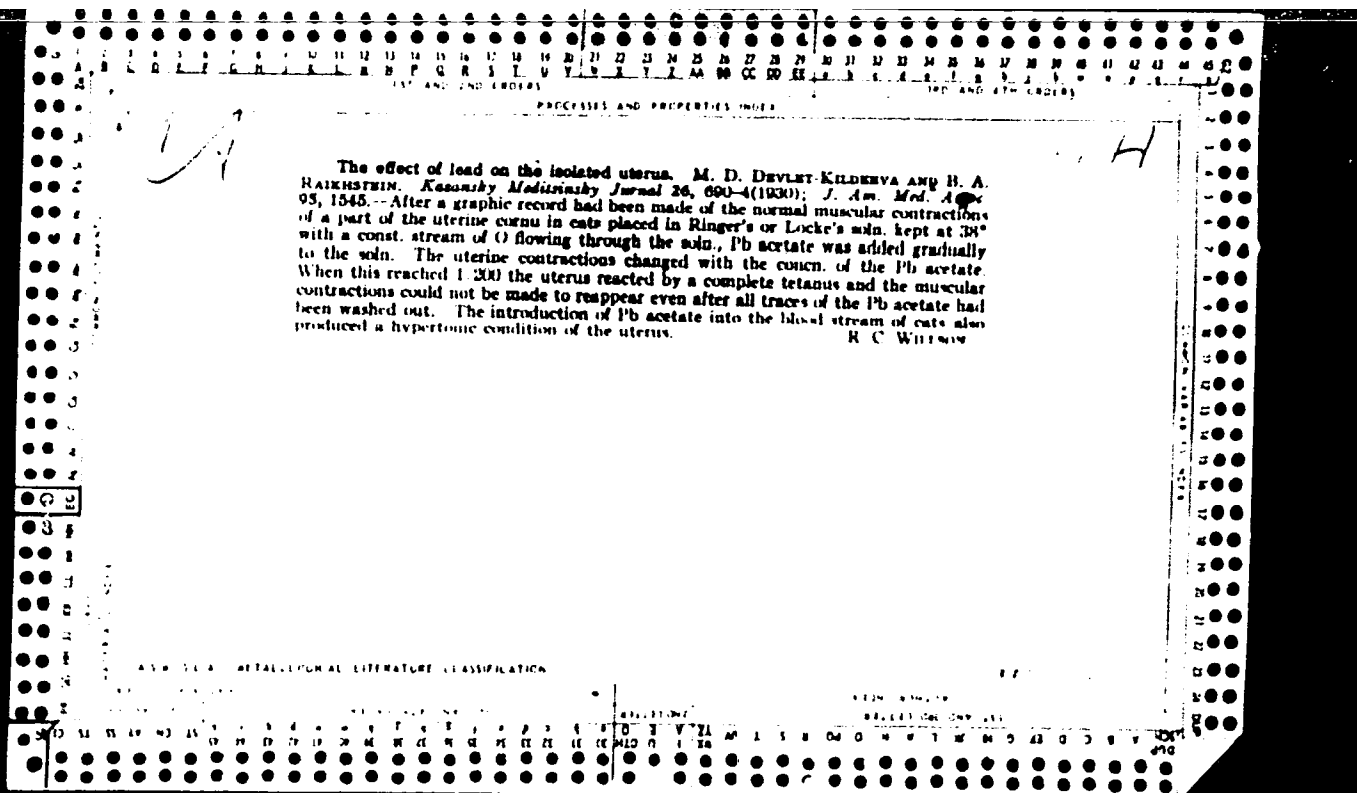
RAIKHRUD, A. Ya.

Quantitative regularities in the regulation of synthesis in the
virus cell system. Vop. virus. 8 no.3:325-329 My-Je'63.

(MIRA 16:10)

1. Institut virusologii imeni D.I.Ivanovskogo AMN SSSR, Moskva.
(VIRUS RESEARCH) CELL METABOLISM)

*Interdiffusion of Platinum and Iridium in the Solid State. O. E. Zvyaginskaya, A. G. Raikhtadt, and M. A. Vladimirova (*Zhur. Priklad. Khim.*, 1944, 17, 22-30; *C. Abstr.*, 1945, 39, 1126).—[In Russian.] Platinum-iridium alloys, containing 10, 25, 35, and 50% of iridium, were prepared from powdered components, and interdiffusion therein was studied at 1300, 1400, and 1500° C. Very rapid diffusion occurs; after 10 hr. at 1300° C. all alloys studied showed the presence of solid solutions. The moment of the formation of homogeneous solid solution was noted by the appearance of a max. in the curves of specific electrical conductivity, and by microscopic and X-ray examination. The diffusion of iridium into platinum is slower than that of platinum into iridium. The ready formation of solid solutions permits the use of powder-metallurgical methods of manufacture at fairly low temperatures.



RAIKHSHEIN, S. I.

Pa-2T49

USSR/Physical Chemistry - Apparatus
Elasticity Measurements

Mar 1947

"An Apparatus for Determination of Dissociation
Pressure," S I Raikhshtein, and I A Kazarnovskiy,
4 pp

"Zhurn Fiz Khim" Vol XXI, No 3

Diagrams and operating data of subject equipment
for elasticity measurements in dissociation of
hard substances

2T49

Inorganic peroxides. XI. Higher oxides of potassium
1. A. Karmakovskii and S. I. Raikhshteyn (Karpov Inst.
Phys. Chem., Moscow). *J. Phys. Chem.* (USSR) 21
245-255 (1957) (in Russian); cf. C.A. 33, 3714p. The
pressures above K_2O_4 (prepn. described) are 0.75, 1.15
and 1.65 $\pm$ 0.1 mm. Hg at 300°, 300°, and 370°, resp.
The pressure remains const. on removing O_2 until the
compn. K_2O_4 is reached, when it drops to about 0.65 mm.
Thus K_2O_4 does not exist. The disaccn. is reversible,
and K_2O_4 can be obtained by heating K_2O_3 (prepn.
described) in O_2 . K_2O_3 and K_2O_4 have D_{25}^{25} 2.158 $\pm$ 0.001 and
2.170 $\pm$ 0.001. From the mol. refraction of K_2O_3 , the re-
fraction of the univalent anion O_2^{2-} is calcd. to be 0.11. The
heat of formation of K_2O_4 is calcd. to be 117,000 cal. by
using thermochem. data of Forcrand and the above pres-
sure data. J. J. Bikerman

L. J. Hakerman

ASME-31A METALLURGICAL LITERATURE CLASSIFICATION

100-100000

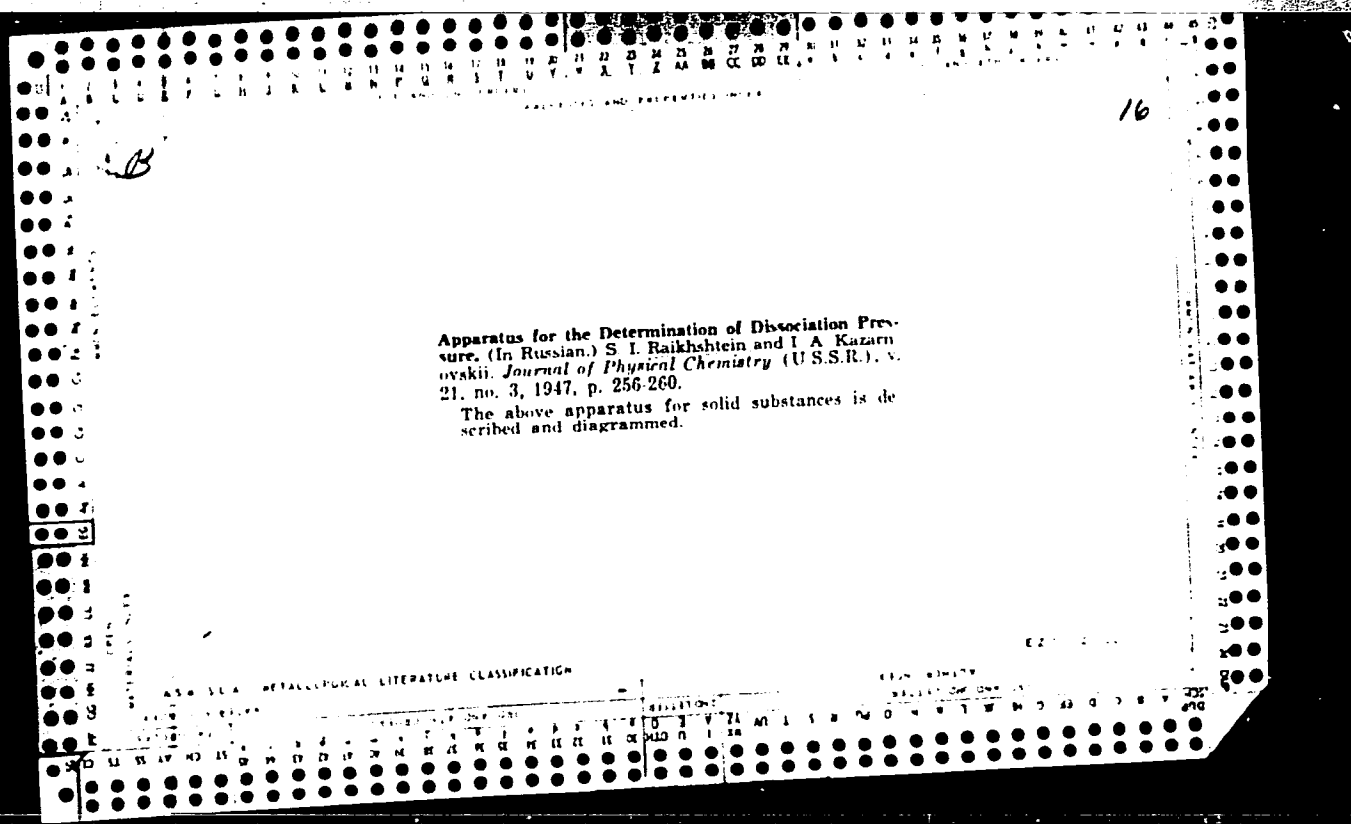
1011000 418 QNV Cal

7-11-22 ONZ

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Preliminary communications and discussion. Is there a
trioxide of potassium? S. I. Raikhdan and I. A.
Kazarmovskii. *J. Phys. Chem.* (U.S.S.R.), 11, 1131
(1958). The existence of K_2O_3 was investigated by meas-
uring its disson. point and that of its products of thermal
disintegration up to K_2O_2 . It was found that even the first
measurements of the thermal disintegration kinetics at
 300° and 0.1 mm. pressure pointed to the fact that K_2O_3 is
not an individual compd. but is a mixt. of K_2O_2 with K_2O .
The curve is smooth and no bend is found at the point
corresponding to K_2O_2 . W. R. Houn-



1ST AND 2ND COPIES

PROCESSING AND PROPERTY INDEX

1

CA

Apparatus for determining dissociation pressures. S. I. Raikhshteyn and I. A. Kazarnovskii (Karpov Inst. Phys. Chem., Moscow). *J. Phys. Chem.* (U.S.S.R.) 21, 257-60(1947)(in Russian). - The sample (0.5 g.) is suspended on a quartz spiral the extension of which is 0.2 mm. per mg. The sample is heated in a vacuum, and the pressure attained detd. with a McLeod. Thus, simultaneous detn. of the degree of decompn. and the dissociation pressure is possible. The thermoregulator used is described. J. J. Bikerman

COMMON ELEMENTS

COMMON VARIANTS INDEX

ASTM-SLA METALLURGICAL LITERATURE CLASSIFICATION

FROM STATION

TO STATION

COLLECTION

DATE

1ST AND 2ND COPIES

ELIKHTSALN, A.G.

Khimicheskie laboratorii po
issledovaniu uglei (Chemical laboratories for coal
research). Moskva, Ugletekhnizmat, 1952. 168 p.

SO: Monthly List of Russian Accessions, Vol. 6, No. 1, April 1953

PAIKS, H. A.

Paiko, H. A. "The Kamchatka Seismic Expedition." Vestnik Akad. Nauk S.S.S.R., Leningrad, Extra Number, 1932, pp. 177-184.

BATIN, N. N.

Batin, N. N. "On the Possibility of Observing Mohorovicic Phase During the Caucasian Earthquakes." Izv. Seismologicheskogo Instituta, No. 18, 1980, : . 1-10.

IVANOV, P., inzh.; KERVANBASHILV, St., inzh.; ARSOV, IA., inzh.; RAIKOV, K., inzh.

A new foundry binder based on bitumen. Mesinostroene 13 no.4:
23-27 Ap '64.

RAIKOV, Raiko, inzh.

Distribution of power reserves in various power systems in
Bulgaria. Elektroenergiia 14 no.1:3-5 Ja '63.

RAIKOV, P

"Let us mechanize the fight against the grape *Peronosporales*", p 131
(КООТРАВИНА ЗЕМЕДЕЛИЕ. Vol 6 #4. Apr. 1961, Bulgaria)

SO: Monthly List of ^{East European} ~~Russian~~ ^{Vol 6 #8} Accessions,/Library of Congress, August 1953, Uncl.

2 of 11

KHISTOV (A.) & RALTOV (B. B.). Делствие на праховидните фунгициди върху излизаността на зеленчуковите семена при максимално напръскване.
[The effect of fungicidal dusts on the germination of vegetable seed when maximum dusting is employed.] - Reprinted from Семенпроизводство [Seed Production], iv, 1-2, 6 pp., 1945.

In comparative tests conducted over a period of ten years in Bulgaria, the highest germination rates of vegetable seeds treated with fungicidal dusts were as follows: red cabbage with porzol [*R.I.M.*, xvii, p. 450] 87-75 per cent., tillantin R. [*ibid.*, xxvi, p. 187] 85-75, control 79-5; white cabbage with copper carbonate [*ibid.*, xxvi, p. 324] 82-5, tillantin 78-75, control 60-5; dill [*Peucedanum graveolens*] with copper carbonate 76, ceresan 71-25, control 67-5; pepper with tillantin 98-25, control 95-75; radish with copper carbonate 84-25, tillantin 82-25, control 44-25; lettuce with porzol 88, copper carbonate 81-75, control 81-5; eggplant with tillantin 73-25, porzol 69-75, control 45. In one test granosan and ceresan completely controlled *Alternaria radicina* [*ibid.*, xxv, p. 378] on heavily infested carrot seed.

RAIKOV, G., inzh.; ZLATEV, Zl.

Installation of cables at the mine hoisting machine with friction plates. Min delo 16 no.11:24-27 '61.

1. "Mashiproekt"(for Raikov) 2. Gl. mekhanik na Durzhavno minno predpriatie "Burgazski medni mini"(for Zlatev)

(Mining machinery) (Hoisting machinery)

PAIKOV, G.
TECHNOLOGY

Novelties on the prespinning machines for worsted spinning. p. 19.

LEKA PROMISHLENOST. TEKSTIL. (Ministerstvo na lekata promishlenost) Sofia.

Vol. 7, no. 6, 1958.

SO: Monthly List of East European Accessions (EEAI) LC

Vol. 8, No. 3
Uncl. March 1959

RAIKOV, G.

Regulating the mechanisms of the flat carding machine.

P. 21, (Lika Promishlenost) Vol. 6, no. 2, 1957, Sofia, Bulgaria

SO: Monthly Index of East European Accessions (EEAI) Vol. 6, No. 11 November 1957

RADEV, R., inzh.; BALEV, V., inzh.; RAIKOV, Il., inzh.

Determining the depth of dressing of the Chukurovo coals.
Min delo 17 no.11:12-14 '62.

1. Bulgarska akademiia na naukite.

RAIKOV, IVAN

Ot Buzludzha do vrukh Botev. Sofia, Profizdat, 1957. 76p. (From Buzludzha Mountain to Botev Peak. illus., fold map, bibl.)

SO: Monthly Index of East European Accessions (EEAI) Vol. 6, No.11 November 1957